Document of
The World Bank

Report No: ICR00003151

IMPLEMENTATION COMPLETION AND RESULTS REPORT
(IBRD-73220)

ON A

LOAN

IN THE AMOUNT OF US$50 MILLION

TO THE

REPUBLIC OF PERU

FOR A

REGIONAL TRANSPORT INFRASTRUCTURE DECENTRALIZATION PROJECT

December 24, 2014

Transport and ICT Global Practice
Bolivia, Chile, Ecuador and Peru Country Unit
Latin America and Caribbean Region

CURRENCY EQUIVALENTS

(Exchange Rate Effective December 24, 2014)
Currency Unit = Peruvian Nuevo Sol
2.97 PEN = US$1

FISCAL YEAR
January 1 – December 31

ABBREVIATIONS AND ACRONYMS

AADT	Average Annual Daily Traffic	PAD	Project Appraisal Document
CBA	Cost Benefit Analysis	PATS	*Programa Apoyo Transporte Sub-nacional* (Subnational Transport Support Project)
CEA	Cost Effectiveness Analysis	PDO	Project Development Objective
CND	*Consejo Nacional de Descentralización*	PCD	*Programa Caminos Descentralizada* (Regional Roads Decentralization Project)
DGASA	*Dirección General de Aspectos Sociales y Ambientales*, (Environmental and Social Unit of the MTC)	PCR	*Programa Caminos Rural* (First Rural Roads Project)
ERR	Economic Rate of Return	PCR2	*Programa Caminos Rural* 2(Second Rural Roads Project)
GOP	Government of Peru	PTRD	*Programa Transporte Rural Descentralizada* (Decentralized Rural Transport Project)
ICR	Implementation Completion Report	PVD	*Provias Descentralizada*
IDB	Inter-American Development Bank	RED	Road Economic Decision (model)
ISR	Implementation Status Report	RIMU	Regional Infrastructure Management Unit
MEF	Ministry of Economy and Finance	RRD	Regional Road Directorates
MTC	*Ministerio de Transporte y Comunicaciones* (Ministry of Transport & Communications)	SEPA	*Sistema de Ejecución de Planes de Adquisiciones* (system to implement procurement plans)
NGO	Non-Governmental Organization	SIAF	*Sistema Integrado de Administración Financiera*
NPV	Net Present Value	SIL	Specific Investment Loan

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PERU
Regional Transport Infrastructure Decentralization Project

CONTENTS

A. Basic Information			
Country:	Peru	Project Name:	Regional Transport Infrastructure Decentralization
Project ID:	P078813	L/C/TF Number(s):	IBRD-73220
ICR Date:	12/24/2014	ICR Type:	Core ICR
Lending Instrument:	SIL	Borrower:	GOVERNMENT OF PERU
Original Total Commitment:	USD 50.00M	Disbursed Amount:	USD 41.60M
Revised Amount:	USD 41.60M		
Environmental Category: B			
Implementing Agencies: Provias Descentralizado- Ministerio de Transportes y Comunicaciones			
Cofinanciers and Other External Partners: IDB			

B. Key Dates				
Process	**Date**	**Process**	**Original Date**	**Revised / Actual Date(s)**
Concept Review:	04/14/2004	Effectiveness:	04/10/2006	04/10/2006
Appraisal:	04/25/2005	Restructuring(s):		05/06/2010 06/10/2010 12/18/2013
Approval:	07/12/2005	Mid-term Review:	06/30/2008	09/17/2009
		Closing:	06/30/2010	06/30/2014

C. Ratings Summary	
C.1 Performance Rating by ICR	
Outcomes:	Moderately Satisfactory
Risk to Development Outcome:	Substantial
Bank Performance:	Moderately Satisfactory
Borrower Performance:	Moderately Satisfactory

C.2 Detailed Ratings of Bank and Borrower Performance (by ICR)			
Bank	**Ratings**	**Borrower**	**Ratings**
Quality at Entry:	Moderately Satisfactory	Government:	Moderately Satisfactory
Quality of Supervision:	Moderately Satisfactory	Implementing Agency/Agencies:	Moderately Satisfactory
Overall Bank Performance:	Moderately Satisfactory	**Overall Borrower Performance:**	Moderately Satisfactory

C.3 Quality at Entry and Implementation Performance Indicators			
Implementation Performance	**Indicators**	**QAG Assessments (if any)**	**Rating**
Potential Problem Project at any time (Yes/No):	No	Quality at Entry (QEA):	None
Problem Project at any time (Yes/No):	Yes	Quality of Supervision (QSA):	None
DO rating before Closing/Inactive status:	Moderately Satisfactory		

D. Sector and Theme Codes		
	Original	**Actual**
Sector Code (as % of total Bank financing)		
Central government administration	5	5
Rural and Inter-Urban Roads and Highways	70	70
Sub-national government administration	25	25
Theme Code (as % of total Bank financing)		
Administrative and civil service reform	22	22
Decentralization	23	23
Infrastructure services for private sector development	22	22
Public expenditure, financial management and procurement	11	11
Rural services and infrastructure	22	22

E. Bank Staff		
Positions	**At ICR**	**At Approval**
Vice President:	Jorge Familiar Calderon	Pamela Cox
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F. Results Framework Analysis

Project Development Objectives (from Project Appraisal Document)

The project development objective is to improve - through decentralization at the regional level - the prioritization, efficiency and effectiveness of regional transport interventions and, hence, their contribution to regional development and poverty alleviation by enhancing transport conditions in the Borrower's territory (Peru).

Revised Project Development Objectives (as approved by original approving authority)

The PDO was not revised. The target for the second PDO indicator "increase in the quality of regional transport infrastructure as measured by % of the secondary network in good conditions" was reduced from 35% to 17% in a level two corrective restructuring approved by World Bank management on 7/23/2010 following a mid-term review, to reflect more realistic civil works targets following the delays experienced initiating the project, as well as increased construction costs and reclassification of roads as challenges in implementation. Due to reclassification (determined by GOP) of roads, the original regional road network length increased from 14,270km at appraisal to 23,740 km. With new network length, the new baseline became 9%.

(a) PDO Indicator(s)

Indicator	Baseline Value	Original Target Values (from approval documents)	Formally Revised Target Values	Actual Value Achieved at Completion or Target Years
Indicator 1 :	Increase in the use of regional transport infrastructure as measured by decreased transport tariffs along upgraded regional roads.			
Value quantitative or Qualitative)	n/a	10%	n/a	n/a
Date achieved	07/12/2005	07/13/2005	06/30/2014	06/30/2014
Comments (incl. % achievement)	This target was not measured throughout the project. Perception survey results are mixed. The indicator was not the most appropriate selection as discussed in ICR. See 2.3			
Indicator 2 :	Increase in the quality of regional transport infrastructure as measured by % of the secondary network in good conditions.			
Value quantitative or Qualitative)	15%	35%	17%	16%
Date achieved	07/12/2005	07/13/2005	06/30/2014	06/30/2014
Comments (incl. % achievement)	Reclassification increased regional road network (23,740km) from 14,270km at appraisal. PCD achieved 94% of revised target, compared to new baseline of 9%. Since network changed, original target no longer valid, achieved 46% of original target (see table).			

(b) Intermediate Outcome Indicator(s)

Indicator	Baseline Value	Original Target Values (from approval documents)	Formally Revised Target Values	Actual Value Achieved at Completion or Target Years
Indicator 1 :	Number of participatory regional road plans approved by the regional council or the competent commission of the regional council, in line with agreed standards.			
Value (quantitative or Qualitative)	8	20	24	24
Date achieved	07/12/2005	07/13/2005	07/23/2010	05/31/2014
Comments (incl. % achievement)	100% achieved of revised target, all regions prepared plans (achieved 120% of original target) number of participating regions reduced, see Annex2.			
Indicator 2 :	Number of km of regional roads prioritized through participatory planning and rehabilitated according to agreed standards.			
Value (quantitative or Qualitative)	0	2200	1781	1562
Date achieved	07/12/2005	07/13/2005	07/23/2010	06/30/2014
Comments (incl. % achievement)	88% achieved, the project substantially achieved the overall revised target. (achieved 71% of the original target)			
Indicator 3 :	Number of km of regional roads rehabilitated by Provias Rural and transferred to regional governments undergoing periodic maintenance according to agreed standards.			
Value (quantitative or Qualitative)	0	2700	2202	3541
Date achieved	07/12/2005	07/13/2005	07/23/2010	05/31/2014
Comments (incl. % achievement)	161% achieved. The target was exceeded thanks in large part to the technical assistance provided by PVD to the regional governments. (achieved 131% of original target)			
Indicator 4 :	Number of km of regional roads receiving routine maintenance according to agreed standards.			
Value (quantitative or Qualitative)	2706	4900	4219	2570
Date achieved	07/12/2005	07/13/2005	07/23/2010	06/30/2014
Comments (incl. % achievement)	The annual number of kilometers receiving routine maintenance varied over the period of the project, the number indicated is an average over the project period, which reflects a 61% achievement (52% achieved of original), and is lower than the baseline.			
Indicator 5 :	Number of micro-enterprises created			
Value (quantitative or Qualitative)	100	180	169	110

Date achieved	07/12/2005	07/13/2005	07/23/2010	06/30/2014
Comments (incl. % achievement)	The project maintained up to 110 microenterprises reflecting a 65% achievement over the life of the project (61% achieved of original). However, as only 10 microenterprises were created, this is a 14% gain with respect to the intended target (12.5% of original)			
Indicator 6 :	Proportion of participating regional governments which have successfully implemented the reforms described in their institutional agreements.			
Value (quantitative or Qualitative)	0%	100%	71%	71%
Date achieved	07/12/2005	07/13/2005	07/23/2010	05/31/2014
Comments (incl. % achievement)	100% achieved (71% of original). This indicator reflects the signing of agreements, which, as indicated in the ICR, does not measure the institutional improvements expected in the participating regions.			
Indicator 7 :	Roads rehabilitated, Non-rural			
Value (quantitative or Qualitative)	0	2200	1781	1562
Date achieved	07/12/2005	07/13/2005	07/23/2010	06/30/2014
Comments (incl. % achievement)	88% achieved, (71% of original) this indicator was added later to be consistent with the new core indicators, it is the same as Indicator 2 above.			

G. Ratings of Project Performance in ISRs

No.	Date ISR Archived	DO	IP	Actual Disbursements (USD millions)
1	06/12/2006	Satisfactory	Satisfactory	0.13
2	10/31/2006	Satisfactory	Satisfactory	0.13
3	04/13/2007	Moderately Satisfactory	Moderately Satisfactory	0.13
4	12/18/2007	Moderately Unsatisfactory	Moderately Unsatisfactory	0.80
5	06/20/2008	Moderately Unsatisfactory	Moderately Unsatisfactory	2.62
6	12/24/2008	Moderately Unsatisfactory	Moderately Unsatisfactory	4.50
7	04/09/2009	Moderately Satisfactory	Moderately Satisfactory	4.50
8	10/01/2009	Moderately Unsatisfactory	Moderately Unsatisfactory	6.14
9	03/17/2010	Moderately Unsatisfactory	Moderately Unsatisfactory	8.10
10	05/07/2010	Moderately Satisfactory	Moderately Satisfactory	9.26
11	02/14/2011	Moderately Satisfactory	Moderately Satisfactory	18.13
12	08/02/2011	Satisfactory	Satisfactory	18.13
13	03/29/2012	Moderately Satisfactory	Moderately Satisfactory	24.03
14	11/17/2012	Moderately Satisfactory	Moderately Satisfactory	30.03

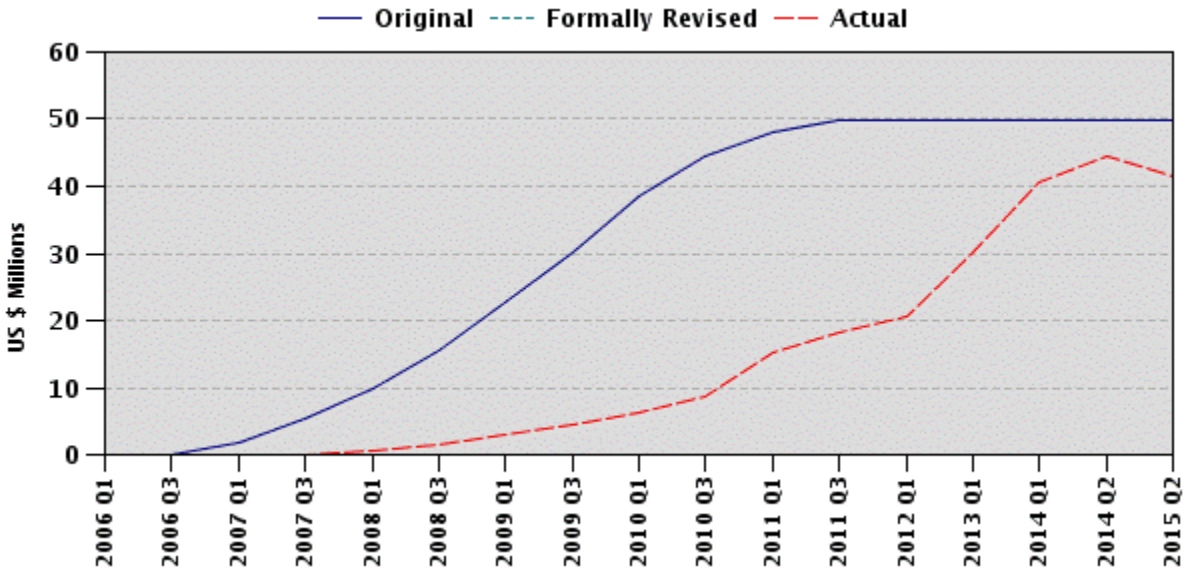
15	06/26/2013	Moderately Satisfactory	Moderately Satisfactory	32.03
16	02/18/2014	Moderately Satisfactory	Satisfactory	44.53
17	07/09/2014	Moderately Satisfactory	Moderately Satisfactory	44.53

H. Restructuring (if any)

Restructuring Date(s)	Board Approved PDO Change	ISR Ratings at Restructuring		Amount Disbursed at Restructuring in USD millions	Reason for Restructuring & Key Changes Made
		DO	IP		
05/06/2010	N	MU	MU	9.26	The extension was necessary to allow the implementing agency to complete the project and the loan to be fully disbursed so as to achieve development objectives by the end of the extension period. Delays as well as external factors impacting the decentralization process (such as alternate funding sources, and saturated construction industry market) impacted the project implementation.
06/10/2010		MS	MS	9.26	The objective of restructuring was to introduce several modifications to project design that will help speed up implementation, make sure that project completion can be achieved within the extended period, and update the results´ framework. Target values of all intermediate outcome indicators were adjusted. Also, the target value of one PDO indicator was reduced.
12/18/2013		MS	MS	44.53	The purpose for this last restructuring was to propose an extension of the Loan closing date, from December 31, 2013, to June 30, 2014, for a cumulative amount of 48 months. This proposed extension supported the completion of the projects activities, particularly the road rehabilitation contracts and new

Restructuring Date(s)	Board Approved PDO Change	ISR Ratings at Restructuring		Amount Disbursed at Restructuring in USD millions	Reason for Restructuring & Key Changes Made
		DO	IP		
					project preparation.

I. Disbursement Profile



1. Project Context, Development Objectives and Design

1.1 Context at Appraisal

At the time of appraisal in 2004, the Government of Peru (GOP) had been engaged in implementing an ambitious decentralization agenda (for about three years), effectively transferring responsibilities to regional and local levels[1]. In addition fiscal transfers had also been increasing but at the time, the majority of the resources were dedicated to current expenditures (mostly payrolls) thus limiting the amounts available for investments. Nevertheless, building upon international evidence and the GOPs own experience with local roads, the GOP prioritized the roads sector (along with health) as important elements to underpin growth and formalized the participation of regional and local stakeholders in the management of public resources and the selection of public investments.

The GOP aimed to increase competitiveness of Peru's regions through decentralization and in so doing allow sustainable development by promoting public and private investments, job creation, full rights and access to equal opportunities for regional populations. At the regional level, Participatory Regional Development Plans defined the strategy to strengthen the competitiveness of regions and integrate markets across neighboring departments through investing in roads and improving road sector management. The challenge at the time of appraisal was to strengthen the capacity of regional governments to efficiently manage the secondary road network, building on the successful experience from rural roads previously implemented with WB (and IDB) financing[2].

The road sector at the regional level was in a state of confusion given the disappearance of former de-concentrated regional entities and transfer of responsibility for regional road networks from the central Ministry of Transport and Communications (MTC) to regional governments. Responsibilities on transport matters-regulation, traffic safety, road asset management-at the regional level were split between smaller Regional Infrastructure Management Units (RIMU) under Regional Governments, and larger Regional Road Directorates (RRD) reporting to the MTC. At the time, in addition to the aforementioned entities, the MTC's own *Provias Departamental*, was also executing works-largely by force account-on the regional road network.

At the time of appraisal the regional road network consisted of 14,300km, the majority of which was in poor condition –only 3,000km was in regular or good condition- the remaining 80% was in need of rehabilitation or improvement. The strategy envisioned at the time was to address four main issues: (1) poor road conditions (2) insufficient financial capacity (3) low institutional capacity (4) lack of clarity in terms of institutional responsibilities at both the regional and central levels in the new context of decentralization. Embedded in the strategy was the decision to achieve higher levels of efficiency through outsourcing and use of private sector (contractors, microenterprises) while reducing the reliance on and use of force account operations. The project

[1] At the subnational level, Peru is divided into regions responsible for departmental roads (*caminos departamentales*) and provinces and municipalities responsible for local/rural roads (*caminos vecinales*).

[2] Peru Rural Roads Project (*Proyecto Caminos Rurales - PCR*); Peru 2nd Rural Roads Project (*Proyecto Caminos Rurales 2 – PCR2*)

was thus designed to contribute to implement the GOP's strategy through the combination of investments and technical assistance, which would not have taken place in the absence of the project.

Because of the already well-established and highly successful partnership of the GOP and the Bank in the road sector, the GOP viewed the WB as a source of analytical knowledge known to highlight sustainable and sound asset management principles. This partnership contributed to create a rural roads program, which was successfully implemented over the span of the preceding decade, with a third iteration (PTRD) implemented in parallel to PCD, and rated highly satisfactory in its ICR upon completion. In addition the WB was viewed as having the convening authority to engage various key actors within the context of the ambitious reform agenda that was expected during project implementation. The project was designed and implemented as a joint operation with co-financing from the IDB.

1.2 Original Project Development Objectives (PDO) and Key Indicators

The project development objective is to improve - through decentralization at the regional level - the prioritization, efficiency and effectiveness of regional transport interventions and, hence, their contribution to regional development and poverty alleviation by enhancing transport conditions in the Borrower's territory (Peru).

The project outcomes are: (i) increase in the use of regional transport infrastructure as measured by decreased transport tariffs along upgraded regional roads; and (ii) increase in the quality of regional transport infrastructure as measured by % of the secondary network in good conditions. (See Datasheet for intermediate outcome indicators).

1.3 Revised PDO (as approved by original approving authority) and Key Indicators, and reasons/justification

The PDO was not revised. The target for the second PDO indicator "increase in the quality of regional transport infrastructure as measured by % of the secondary network in good conditions" was reduced from 35% to 17% in a level two corrective restructuring approved by World Bank management on 7/23/2010 following a mid-term review, to reflect more realistic civil works targets following the delays experienced initiating the project, as well as increased construction costs and reclassification of roads as challenges in implementation[3]. Due to reclassification (determined by GOP) of roads, the original regional road network length increased from 14,270km at appraisal to 23,740 km. With new network length, the new baseline became 9%.

1.4 Main Beneficiaries

The Participatory Regional Road Plans indicate the beneficiary population, defined as those living within 5km of the project roads. An ex-post analysis performed after project closing found

[3] Some intermediate outcome indicators were also revised (see Section F of the Datasheet).

that approximately 1.226 million persons have benefitted from PCD. In addition, the investments are expected to have benefitted inter-regional road users other than the local ones as the investments aim to integrate markets. Additionally the project directly benefitted those agencies responsible for regional road asset management both at the national and regional level thus creating efficiencies in resource allocations that would benefit the general population.

1.5 Original Components

The PAD presented five components, each expected to move at a different pace depending on the participating region.

Component 1: Preparation of participatory regional road planning *(estimated cost US$10.9 million of which US$5.45 million would be financed by the Bank Loan).* This component would finance the preparation of Participatory Regional Road plans—aligned with the existing Regional Development Plans—and elaborate a diagnosis of the sector in a particular region, analyze the supply and demand for transport services and infrastructure, and prioritize and evaluate road investment options, towards identifying the sub-project priorities that could be funded under the project (sub-component 1-A). A prioritizing methodology, [4] including a combination of both economic potential and poverty level criteria, was prepared as part of project preparation, with due attention to environmental and social issues. The preparation of these plans would be handled by the planning units of the regional governments, with the technical assistance of consultants. *Provias Departamental* would facilitate the process (eg. organize coordination events) and monitor the preparation of the plans. Ultimately, plans would have to be formally approved by the regional council or by a competent commission of the regional government. This component would help finalize plans in every eligible region[5], by financing the related costs (organization of participatory planning, training of the planning units, dissemination and coordination costs, updating or revision of certain plans). It would also finance the various feasibility and technical studies (sub-component 1-B) for the road segments prioritized through participatory planning.

Component 2: Upgrading of regional roads *(estimated cost US$138.83 million of which US$34.71 million would be financed by the Bank Loan).* The objective of this component was to rehabilitate about 2,200 km of regional roads prioritized through participatory planning (under component 1) and to perform the periodic maintenance of 2,706 km of regional roads rehabilitated by another agency of MTC (*Provias Rural*) and transferred to regional governments. Some regional roads which that had been rehabilitated early on were also in need of periodic maintenance before the end of the project and such activities would also be eligible under this component. About a third of the secondary network would be upgraded as a result of this component and the ultimate development impact was expected to be high since the road segments to be upgraded would be selected according to their relevance for regional development. Regional governments would contract private enterprises to perform the rehabilitation works and engineering consultants to carry out the relevant supervision, with the technical support and oversight of the PVD. The related upgrading tasks would contribute to skilled and unskilled employment generation in the regions. None of the works to be undertaken

[4] *Metodología para la formulación, evaluación y actualización de los planes viales participativos.*

[5] Eligibility was determined by the signing of 'Convenios' which implied, an institutional agreement; and a financing agreement, stipulating the conditions of participation in PCD

under this component were expected to require resettlement or imply major impacts to the natural environment.

Component 3: Routine maintenance of regional roads *(estimated cost US$26.12 million of which US$3.39 million would be financed by the Bank Loan).* This component would finance the routine maintenance - and the related supervision - of the 4,900 km of regional roads rehabilitated (or having received periodic maintenance) under the previous component. In addition, it would finance specific road maintenance interventions (annual mechanized maintenance also called *perfilado* in Spanish) performed once a year right after the rainy season. Building on the successful experience of the Rural Roads projects I and II, maintenance would be performed by mechanisms similar to the micro-enterprise model. The *perfilados* could be performed under force-account but the amount to be reimbursed by the project would be fixed per kilometer (about US$600 per km and per year plus inflation) and subject to a maximum of US$8.8 million. The activities were expected to generate unskilled employment opportunities that could benefit the rural poor. Particular attention would be paid to ensuring the sustainability of the model (i.e., that sufficient funding was dedicated by regional governments to maintenance and that micro-enterprises were adequately contracted to perform such maintenance). The activities would follow environmentally sensitive approaches, following current practices in Peru and other Latin American countries. This component would benefit from the experience of the 2,706 km of roads transferred by Provias Rural (all of them were at the time already being maintained by micro-enterprises).

Component 4: Institutional capacity building *(estimated cost US$17.14 million of which US$5.95 million would be financed by the Bank Loan).* This component—to be managed centrally by PVD—aimed to provide the technical assistance needed to upgrade regional governments' institutional capacity and would be built upon comprehensive institutional assessments performed during project preparation (as part of project preparation, comprehensive institutional assessments had been prepared in 8 "fast track" regions.). Activities under this component included: (a) the rationalization of the current institutional framework and in particular the restructuring (possibly merging) of the RRDs (formerly with the Ministry of Transportation and Communication) and the RIMUs, newly-created as part of the organizational structure of the regional governments; (b) supporting a transition from direct administration of road maintenance/rehabilitation to contracting it to the private sector; (c) training in safeguards management; (d) clarification and assignment of regulatory responsibilities (for instance those related to the regulation of transport services and to road safety); (e) actions for the restructuring of the PVD; [6] and (f) monitoring, auditing and evaluation. Resources (up to a total of US$200,000) had been allocated as well for possible studies related to the management of the regional road network in the context of national transport policies and programs, complementing other existing resources that focus on overall transport policy formulation. [7] Eligible expenditures for this component would include technical assistance, studies and evaluations, as well as training, dissemination and coordination costs. This component would include two

[6] The component would help design and implement the restructuring process of PVD which had been agreed upon at negotiations.

[7] For example, IDB resources within its Third National Road Project.

different types of activities: sub-component 4-A (institutional strengthening of regional governments) and sub-component 4-B (institutional strengthening of PVD).

Component 5: Project administration *(estimated cost US$6 million to be financed exclusively from national counterpart funds).* The costs related to project administration by PVD would fall under this component.

1.6 Revised Components

The components were not revised but final component costs changed at closing (see Annex 1).

1.7 Other significant changes

Because of the substantial delays experienced in project implementation, which are discussed in detail in Section 2 below, there were two loan amendments and three formal extensions of the loan closing dates. The level two corrective restructuring approved by World Bank management on June 10, 2010 centered on the reallocation between categories including revision of disbursement percentages mainly to allow for higher loan financing of works, a revision of indicators consistent with revised schedules, size and costs of civil works, and loan closing extensions to allow for project implementation and completion. The targets for the indicators were reduced to reflect increased unit costs for road works, due to the saturation of the supply market (materials, machinery and qualified labor force) and the construction boom (see annex 2).

The first loan closing extension was from June 30, 2010 to June 30, 2012, when the project, that became effective on April 2006, had only disbursed 19% of loan funds. At that time, the project had already suffered significant delays, with Board Approval on July 12, 2005 and a nine months delay to effectiveness, on April 10, 2006. The second extension was from June 30, 2012 to December 31, 2013, when the project had disbursed 48% of loan funds. Conditions for closing date extension were linked to generating a pipeline of road works that would secure a sound disbursement profile for the extension period. The third and final extension was from December 31, 2013 to June 30, 2014, when the project had disbursed 89%. This six-month extension was to allow the support for initial preparation activities for a proposed new Subnational Transport Support Project (PATS) and complete ongoing works as well as carry out some technical training courses.

Despite the extensions, the project was unable to fully disburse, as some of the works were still ongoing beyond the project closing[8]. As a result, during the last six months of implementation the implementing agency requested the cancellation of US$5.47million (10% of original loan amount), and refunded US$2.93million at the end of the grace period.

[8] Ongoing works beyond project closing were financed with local resources and with the IDB whose loan closing was later in 2014.

2. Key Factors Affecting Implementation and Outcomes

2.1 Project Preparation, Design and Quality at Entry

Project quality at entry was moderately satisfactory for the following reasons:

Soundness of the Background Analysis: The project was fully in line with the Country Assistance Strategy (CAS). The background analysis that supported the project design was sound as it was fully aligned with the main pillars of the 2002 (for the period 2003-2006) CAS which was organized around three central objectives: (i) competitiveness and employment generation; (ii) equity and social justice, including access to health, education, culture and basic services; and (iii) institutionality, creating an efficient, transparent and decentralized state.

The project preparation and design benefitted from lessons learned in Peru as well as international experience on efficiency gains in road sector performance through the use of private contractors as well as micro-enterprises. Key elements of the project built upon a participatory approach, phased and gradual approach to decentralization, and contribution of roads to the competitiveness agenda – selection of those territories and investment alternatives to maximize economic potential criteria (such as agriculture, mining, tourism etc)

Adequacy of Government Commitment: The project enjoyed the strong support of the GOP, as transport was high among the prioritized sectors in which to advance the overall national decentralization agenda. The MTC, Ministry of Finance, and the Council of Ministers (through a representative) were actively involved in project preparation and their continued participation as overseers of the project was included as a condition for effectiveness. At the regional level the original reception was positive mainly because the subsequent dramatic increase in the country's economic growth was incipient and the prospect of fresh funds from the loan for road investments was attractive.

Assessment of Risks: The overall risk for the project was "Modest/Substantial[9]".

The risk of weakening of decentralization reforms was identified as "Modest", and this risk turned out to be low, as decentralization remained a top priority for GOP and enabled the implementation of the program through adequate fiscal transfers to regional governments

The risk of insufficient counterpart funds was rated as "Substantial" and this turned out to be low given the continued allocation of counterpart funds in participating regions. On the other hand, an unforeseen risk, resulting in the availability of alternative resources challenged the project throughout implementation. In the end, both financiers cancelled funds, and in the case of the WB, a refund[10] was received, for works contracts that went beyond the eligibility period (June 2014). Those works were nevertheless implemented with local resources, contributing to improve the regional road network.

[9] The ISR quotes the ratings terminology in use at the time of appraisal and as indicated in the PAD

[10] Refund of 2.93 million in October 2014

The PAD identified as "Modest/Substantial" the risk that PVD would resist the restructuring and perform activities in conflict with decentralization. This risk turned out to be low during implementation. Indeed PVD has phased out the use of force account and been active in strengthening regional government capacity for road management.

The PAD appropriately identified as "Substantial" the risk that regional governments would not have sufficient capacity to assume road management responsibilities. This risk was mitigated by intense training by the implementing agency (PVD).

Assessment of the Project Design: While the project including its PDO was overall well designed, the expectations for the project were optimistic and ambitious, and could have been clearer, in particular with respect to efficiency. The PDO also includes higher level contributions to regional development and poverty reduction, which are difficult to attribute to a project of this nature. Project design relied heavily on the successful experience of the Bank with the rural road projects and expected a replication of that success at the regional level in a short period of time. However, project design overlooked the fact that the rural roads projects were initially implemented centrally by PVD. Only after at least 10 years and under the third iteration of the project the responsibility for implementation was transferred to the local governments. On the other hand the regional roads project expected the successful and rapid implementation of the civil works in a decentralized manner with regional governments unfamiliar with the Bank's requirements.

Finally, and with the benefit of hindsight, the choices offered by the project both in terms of the type of road works interventions (gravel), and the mode of incorporating the private sector in routine road maintenance turned out not to be the preferred choice in the regions. In both cases, project design was based on solid foundations (i.e. discouraging overinvestment and replicating a model of micro-enterprises with a proven record of success in Peru and other Latin American countries). However, regional governments, as discussed later in the report, were not too keen to adopt micro-enterprises and were reluctant in many cases to adopt the gravel option for road works that was favored by the project. Furthermore, in rural roads projects the civil society and local population were stakeholders directly involved and to whom the benefits of rural roads interventions were directly visible at the household level, while in the case of regional projects the roads are further removed from the intended labor pool of microenterprise workers. In this sense the project seemed to offer predetermined solutions without allowing for the possibility to tailor different schemes (such as lower cost paving or surface sealing options, for example instead of gravel) to address regional needs, where other alternatives may have proved more relevant. The project design affected the end results; since all the components were not fully implemented thus the targets were not fully met.

2.2 Implementation

(a) Civil works

The project experienced serious delays almost from the start. Effectiveness took place nine months after board approval, due to internal discussions in the Peruvian administration regarding securing counterpart funds from regional governments. Almost immediately, the 2006 elections brought changes in regional government administrations including a big loss of trained

operational staff, an experience that was repeated with the 2010 elections. These changes required rebuilding interest, ownership and commitment with the new regional government administrations. At the same time, the project faced challenges due to originally unexpected competing alternative and many times more attractive funding sources, which effectively functioned as a disincentive limiting participation of several regions. By the time of the mid-term review only 11% of the loan was disbursed. Several mitigating measures, such as intense supervision, refocusing the project on 17 out of 22 regions, increased training, and in limited cases, partial recentralized contract administration, were adopted. By the time of the second extension of the loan closing date (from June 2012 to December 2013) only about half of the loan was disbursed. In the last six months of implementation US5.47 (10%) of the loan was cancelled, and another US$2.93million refunded at the end of the grace period. By the loan closing date, however, the project had substantially achieved most of its physical targets, by at least 80%. However, the project only marginally implemented the institutional strengthening activities. The following paragraphs discuss the main reasons for the slow rate of project implementation.

- High rotation of technical staff both at PVD and the regional governments. In addition to the election of government officials (which required the resignation of the regional president six months prior to elections to compete for re-election) and that was followed by almost a complete change of technical staff, both at the central and regional levels there was a high rotation of professional and skilled labor due to the dramatic growth of the Peruvian economy. Professionals left the public sector for more attractive positions in the private sector and a boom in construction increased the demand of skilled workers that also joined private construction companies.

- Substantial increase of alternative funding. The project was implemented under a macroeconomic framework completely different from the one at the time of conception. The improvement in Peru's fiscal and financial situations lifted the budgetary restrictions existing during project preparation and resulted in increased transfers to the sub-national governments. In particular, a group of the regions benefitted from royalties from the mining sector, which represented a sizeable addition to their budgets. Thus, the project lost its initial appeal, particularly for the more affluent regions.

- Institutional changes during the initial period of project implementation. During the first two years of project implementation PVD was undergoing a process of restructuring that also negatively affected the pace of project implementation. In 2007 PROVIAS Rural and PROVIAS Departamental were joined in a single entity in charge of promoting the programs addressing the decentralization of the road and transport sectors: PROVIAS Decentralizado (PVD). In addition (i) MTC centralized sector planning, a decision that affected the operative capacity of PVD; and (ii) a much necessary road reclassification modified the network under the jurisdiction of the regional governments and made their original plans obsolete.

- Institutional weaknesses at the regional level. Lack of technical staff and lack of familiarity with the Bank requirements was one of the main issues of project execution. The project supervision Aide Memoirs consistently discussed these issues and proposed alternative solutions to support the regional staff in contracting consultants for studies and supervision

and for the bidding process of works. However, little progress was made in this respect mainly because of what appears to be a reluctance of the government to spend loan funds on consultants to directly support each regional government to advance the project.

- Lengthy procurement processes. Several procurement issues contributed to the slow implementation of the project, among which the most common were: (i) very limited participation of consultant firms and individual consultants due to the excessive requirements for eligibility and/or market limitations; (ii) high rotation of regional government staff who participated in the procurement processes, resulting in a learning curve that impacted the procurement processes, and (iii) biding processes that end as "non-responsive" (*desierto*) [11].

- Lack of agreement on technical solutions. Project implementation was by 2007 eventually also affected by uncertainties about rehabilitation standards (paved/unpaved). The MTC was leaning toward promoting paving through its initiative "*Proyecto Perú*" and many regional governments which have access to relatively abundant budget resources as a result of the then new fiscal transfers (*canon minero*) also wanted to pave roads. However, paving was generally not justifiable (and was resisted by MEF for that reason) and was not initially considered in the project because it was deemed not economically viable. Eventually it was agreed to pilot the use of alternative low cost paving solutions, a task that was carried out with the government's own resources. These pilots, while having little or no impact on the technical solutions financed under the project, are being recognized by PVD as an important contribution of the dialogue with the Bank, since the provided proof of the viability of a range of intermediate interventions involving less than full high cost paving that are more suitable for the conditions of many departmental roads in Peru.

- Road reclassification. Some roads were reclassified (from departmental to national) which removed these roads from the program, as they were included in a national road conservation program "*Proyecto Perú*" which included five-year contracts for low cost paving and maintenance in a "CREMA" like approach. At the same time, on the other hand, there were lower level roads reclassified from rural to departmental, which were then included as roads receiving periodic maintenance, in this way contributing to the higher target achieved, along with the solid support provided from PVD to the regional governments in the form of a standardized bidding document *(expedientes técnicos).*

(b) Institutional development

The institutional strengthening activities were launched only as project closing approached. In addition to the already discussed difficulties of working with the regional governments, the institutional strengthening activities have been historically slow on the uptake. The majority of the efforts were a series of workshops and training events, mainly geared to increasing regional

[11] Many of the bids were declared non-responsive because the price of the lowest evaluated winning bid was substantially higher than the Borrower's updated estimated cost or available budget, or no bidder met the specified qualification criteria and the exercise had to be repeated adding costs and efforts to the procurement process. The lengthy procurement processes were exacerbated by a saturated market due to the construction boom, such that many processes were declared non-responsive (*desierto*) and re-bid due to lack of bids.

governments' capacity to carry out works following WB procurement and safeguards policies. The high rotation of staff at the regional level resulted in duplication of training efforts multiple times.

Overall, the Project was generally implemented with difficulty, yet at the same time benefitted from implementing agency staff familiar with the financial institutions having successfully implemented a series of rural roads projects and largely achieved most of its physical targets. While the design was based on sound technical, economic and social principles (participatory planning), the project could not have foreseen the impact of exogenous factors, which affected the project and caused significant delays at project start, and continued to plague the project throughout implementation.

In conclusion, project implementation, including compliance with Loan covenants, was Moderately Satisfactory. Implementation was rated Moderately Satisfactory in most of the Implementation Status Reports. However, implementation was downgraded to Moderately Unsatisfactory following the mid-term review due to failure to achieve agreed targets and little progress on the project restructuring discussed at mid-term.

2.3 Monitoring and Evaluation (M&E) Design, Implementation and Utilization

M&E Design: The PAD outlined a Results framework, which proved to be valuable in guiding the project monitoring and evaluation activities during implementation. A series of indicators were monitored regularly. Two outcome indicators were chosen: (i) the improvement in the quality of the regional road network, and (ii) a reduction in transport tariffs. The former is a measurable and reliable source while the latter was not explicitly or adequately described. Furthermore, given the wide territorial dispersion of the project the tariffs proved difficult to measure and thus difficult to attribute any changes, whether increases or decreases, directly to the project.

On the institutional front, the percentage of institutional agreements "successfully implemented" by regional governments did not seem a particularly useful indicator, as this seems to have been linked to the signing of memoranda of understanding (*convenios*) between the PVD and each regional government to allow for participation[12]. In other words, the signing of these institutional agreements served to measure operational milestones that needed to be achieved in order to implement the project, but did not serve to measure institutional development in a meaningful manner. As it is the only indicator proposed on institutional matters, the project M&E design, for a project whose ambitions were largely institutional gains, it falls short on value and does not allow for a reflection on institutional gains.

M&E Implementation: Building upon the experience of the rural roads projects, the implementing agency carried out regular monitoring and reporting of project progress, including adequate coverage of fiduciary and safeguards aspects, with regular technical assistance and

[12] The *convenios* included a financing agreement to receive funds from PCD and allocate local resources; agreement to carry out an initial institutional diagnostic.

intense training of regional government counterparts. At the same time regular fiduciary audits were carried out which found that the project complied with all fiduciary and reporting requirements. Some other M&E techniques were proposed in the PAD but many of these activities did not materialize (participatory evaluation exercises, impact assessment studies by independent firms and specialized NGOs, and participatory events involving high level representatives from regional governments). Overall, the PAD intended M&E system was only marginally implemented, and was perhaps too ambitious in hindsight given the challenges experienced during implementation. Although a full impact assessment was not carried out, a beneficiary survey was performed in August 2014 and confirmed the merits of the project.

M&E Utilization: During implementation, particularly following the "inflection point" achieved after the mid-term review, the indicators were monitored and reported regularly, except the one for tariffs. In particular readily available data was utilized as well as the use of quarterly monitoring targets to advance project implementation. The reporting of implementation progress on some of the physical achievements and operational milestones achieved was carried out in a moderately satisfactory manner as the data was routinely collected and monitored regularly. However the indicators on routine maintenance were reported as cumulative kilometers carried out instead of annual figures as established. The number of microenterprises is missing several years of data (between 2009 and 2012) during which period an apparent substantial increase was achieved as reported in ISRs yet by project closing, the implementing agency was unable to confirm the higher numbers. More challenged was the case of the more complex and relevant institutional goals of the project, which did not have adequate indicators and may explain the lack of progress on institutional aspects: i.e. there were no clearly defined targets or milestones towards which to direct project implementation efforts and subsequent monitoring.

2.4 Safeguard and Fiduciary Compliance

The Project complied fully with Bank's safeguards policies requirements at appraisal; however during implementation the compliance was moderately satisfactory, as reflected in the aide memoires and ISRs indicating the approved ESMF was not always fully implemented. The project did not involve major negative social and environmental impacts because it rehabilitated and maintained existing infrastructure. The regional governments had little exposure to implementing World Bank financed projects and little familiarity with safeguards approaches. To mitigate this issue the implementing agency PVD, hired additional social and environmental consultants to support the regional governments adhere to the requirements. However there were significant delays in the hiring of these consultants thus for a large portion of the project the safeguards aspects suffered from lack of adequate coverage. In the early part of implementation, the project received considerable and helpful support from DGASA[13] the environmental and social unit within MTC.

[13] During early aide memoires, there is noted collaboration between the implementing agency and DGASA to provide support to regional governments. However during later phases of the project implementation DGASA was not involved and there were delays in building the capacity in-house within PVD to properly supervise the environmental and social aspects.

At appraisal, the Integrated Safeguards Data Sheet (Report: AC 1413 – publicly disclosed) rated the PCD Project as Category B – Partial Assessment. The project triggered the following safeguard policies: Environmental Assessment (OP 4.01); Cultural Property (OPN 11.03); Involuntary Resettlement (OP 4.12); and Indigenous Peoples (OD 4.20). In compliance with OP 4.01, an environmental assessment was carried out and publicly disclosed (E1151). In compliance with OP 4.12, a Resettlement Plan was prepared and publicly disclosed (RP321). Similarly, in compliance with OD 4.20, an Indigenous People's Plan was prepared and publicly disclosed (IPP125).

The management of procurement processes by Provias Descentralizado (PVD) was overall *Satisfactory*. Seven (7) ex-post procurement reviews were performed by the WB in November 2007, February 2009, May 2010, May 2011, May 2012, January 2013 and March 2014. The ex-post reports, and the Supervision Mission Aide Memoires included recommendations that helped improve the management of procurement processes, including: (a) management of the procurement plan (PP), with a complete systematized information base for follow-up action (the Project's PP was approved and administered through SEPA); (b) constant training of procurement staff implementation, including staff at Regional levels, (c) improvement of filing and archiving of the procurement documentation.

*Key procurement management issues in the operation***:** During the implementation of the Project, there were some issues especially during the evaluation of the proposals (for post-review processes), due to the misinterpretation of the Bank's Procurement Guidelines by the Project, and the provision in the Operations Manual (OM) of the Project which allow them to reject bids because of omissions or mistakes that could be clarified by the bidder. The Bank's team tried to minimize those issues through the training[14] to the procurement staff of the Project, but the criteria[15] in the OM and in the Standard Bidding Documents for NCB and Shopping, did not allow much room for maneuver. It would be advisable to take this background in account for future operations.

During the last three years of implementation of the project, concerns regarding the submission of fraudulent documentation in the procurement processes for two road rehabilitation contracts[16] were raised. Both allegations were submitted by the PIU, reflecting their notable capacity to identify and submit red flags of fraud. INT launched two separate investigations and substantiated both allegations of fraudulent practices. The Project Team also took measures to immediately address these issues, including enhanced procurement supervision and due diligence checks.

[14] Due to continuous staff rotation in the Regional Governments, there were issues during bid-evaluation because of lack of experience of the regional government staff in procurement Bank's procedures, and/or misinterpretation of WB procurement Guidelines. In this point, the Bank's team carried out workshops, jointly with the implementing agency, in order to improve the situation. However, the learning curve caused delay and/or failed processes

[15] The criteria in the OM included World Bank approved standard bidding documents for NCB and Shopping, which allowed agencies to reject proposals due to non-substantial mistakes and/or omissions. As these standard bidding documents were approved by the WB and widely used by the Project, several procurement processes were impacted throughout the project as the majority of the works were bid in this manner, and were subject to post-review. There was reluctance to change the documents once there was wide familiarity with the documents.

[16] The two contract/tenders in question were (i) Road Rehabilitation, Sector Puente 24 de Julio-Cumba-Ocalli Section II: Portachuelo-Camporredondo Amazonas and (ii) Rehabilitation of the Road Tingo Maria – Palo de Acero, Tramo: Puente Monzon – Palo de Acero (CI-001-2010/LNP/GRHCO)

From the Financial Management perspective, project implementation was challenging, considering its design involved decentralized funds flows arrangements. The different Regional Governments had varying levels of capacity and were subjected to high rates of staff turnover, following elections and subsequent transitions. This required close follow up and ongoing training from the PVD central office, building fiduciary capacity at the regional level, and close support from the Bank team, including establishment of standardized processes and procedures to advance resources and adequately document implementation from regional governments; as well as strengthening of information systems mechanisms.

Nevertheless, PVD benefited from the use of governmental financial management information system (SIAF) and complementary information systems. In addition, PVD also relied on qualified experienced staff and maintained adequate financial management arrangements throughout the project's implementation. The overall FM rating was Satisfactory, since financial management arrangements operated as expected including the timely provision of reliable information (interim financial reports and audit reports) for project monitoring during project implementation.

2.5 Post-completion Operation/Next Phase

The GOP and the Bank are currently working on the preparation of a roads project focusing on logistic corridors, that, at the request of the GOP, only involve, rural/local roads within the jurisdiction of municipal and provincial governments, which have important linkages to strategic logistics corridors. The logistics corridors as a whole include national roads that are in many cases linked to local roads through regional roads. To avoid the complications of working with the many government levels, the GOP has decided that the sections under regional jurisdictions will be temporarily reclassified as national roads, for intervention by a national entity (*Provias Nacional*) and, after the improvements are completed, returned to the regional owners. The local roads will receive interventions in a decentralized manner, with the PVD providing overall project oversight and support to the implementing local agencies. The proposed project (*PATS*) is expected to include funding for further strengthening of government capacity for road asset management at both the local and the regional levels.

3. Assessment of Outcomes

3.1 Relevance of Objectives, Design and Implementation

Rating: High – before and after restructuring.

The development objectives and implementation of the Project contributed to Peru's Country Assistance Strategy FY03 – FY06 goal of "strengthening subnational management capacity" by promoting decentralization reforms in the sector at the regional level; contributing to strengthening capacity of regional governments to carry out road asset management including participatory planning; and contributing to strengthening financial management at the regional level following fiscal transfers from MEF. They were also highly relevant to the priorities of the GoP, contributing to all four of the Strategic Objectives of Peru's Country Partnership Strategy FY12 – FY16. In particular, it contributed to providing "better transport and infrastructure to reduce inequality" by providing linkages between national roads and rural roads within the

poorest areas of the country and promoting the employment of women through the microenterprise programs.

The design (which remained unchanged after the 2010 restructuring) remained highly relevant for achieving the PDO as the components linked directly to the objectives, with intermediate outcomes to support the achievement of the outcomes, with the exception, as discussed in this ICR, on the expected institutional evolution.

During implementation, the restructuring included re-allocation of loan funds in order to respond to changed circumstances, including increased costs, and a focus on fewer regions in order to maintain the high relevance of the project which received full support from the implementing agency and national government confirming the projects high relevance.

3.2 Achievement of Project Development Objectives

Rating: Modest before restructuring and Substantial after restructuring.

The project development objective[17] was to improve through decentralization at the regional level the (i) prioritization; (ii) efficiency; and (iii) effectiveness, of regional transport interventions so as to (iv) contribute to regional development and poverty alleviation by enhancing transport conditions in Peru. The performance of the project in these areas in relation to the ambitions described in the PAD and to the revised targets is summarized below (also refer to Annex 2 and Datasheet):

baseline	revised target	actual value achieved by closing	**% achieved of Revised target**	*original target*	*% achieved of original target*
PDO Indicators					
1. reduced transport tariffs					
n/a	n/a	n/a	**n/a**	*10%*	*No data*
2. increase Quality of regional transport infrastructure*					
9%	17%	16%	**94%**	*35%*	*46%*
*new Baseline due to network increase to 23740km					
intermediate outcome indicators					
1. number of participatory regional road plans					
8	24	24	**100%**	*20*	*120%*
2. number km rehabilitated					
0	1781	1562	**88%**	*2200*	*71%*
3. number km periodic maintenance					
0	2202	3541	**161%**	*2700*	*131%*
4. number km routine maintenance					

[17] The PDO provided in the ICR matches the PDO in the Legal Agreement, which differs slightly from the PDO in the PAD as the latter does not include the text "by enhancing transport conditions in the Borrower's territory".

baseline	revised target	actual value achieved by closing	**% achieved of Revised target**	*original target*	*% achieved of original target*
2706	4219	2570	**61%**	*4900*	*52%*
5. number microenterprises					
100	169	110	**65%**	*180*	*61%*
6. percent government institutional agreements					
0%	71%	71%	**100%**	*100%*	*71.00%*

- *prioritization*: better aligning transport investments to local needs as identified by participatory regional development plans and appropriate planning and evaluation tools. *High before and after restructuring*. The project did result in all regional governments having in place a participatory plan, as initially designed and defined in the project (100% achieved). While this is a major step in the right direction, further improvements in planning are necessary. In particular, the level of participation should be improved by encouraging the involvement of representatives of the districts within the region. In many cases, their presence was prevented from lack of funds for their mobilization. Anecdotal evidence from the institutional workshop held after project closing also indicates that the planning process was at times not as participatory as originally envisioned in some of the regions. In terms of the evaluation tools, the project fell short as the tools envisioned in the PAD, including allowance for participation of citizen groups did not materialize as originally intended.
- *efficiency*: strengthening the institutional framework in order to achieve the appropriate management of transport interventions at the regional level, with due consideration to environmental and social issues, including issues related to the Indigenous Peoples of Peru. *Modest before and after restructuring.* Many of the regional governments are able to independently carry out road asset management. The environmental and social issues continue to require strengthening. The Project enabled capacity building of PVD staff to increase managerial and technical capacity, as well as adoption of related tools to improve their effectiveness. The Project also contributed in the form of extensive technical assistance from PVD to regional governments. With regards to the established indicator, the revised target was achieved (100%) as the 17 regions did sign their institutional agreements. Furthermore, the project enabled for example the preparation of standard technical documents for carrying out periodic maintenance, and trained regional staff resulting in full decentralization of periodic maintenance. At the end, the strong commitment was demonstrated in the over-achievement of the revised target on periodic maintenance.
- *effectiveness*: upgrading the quality of regional transport infrastructures and developing sustainable maintenance mechanisms to improve regional mobility which can ultimately foster growth and reduce poverty. *Modest before and Substantial after restructuring* The revised targets were substantially achieved on rehabilitation (1562 km, 88%), exceeded substantially for periodic maintenance (3541 km, 161%). The maintenance component suffered considering the average number of km receiving maintenance was about 2570km per year between 2007-2013 (61% of revised target), which is lower than the

baseline. The microenterprise component was not effective for regional roads as only 14% [18] of the revised target was achieved. Despite the overall challenges, the implementing agency has carried out extraordinary efforts to ensure the upstream participatory planning process was achieved in all regions, in order to inform the subsequent investments to improve the quality of the road infrastructure, as well as secure financing to ensure maintenance mechanisms are applied beyond the project. These efforts have yielded results and formalized the allocations for maintenance in all regions. However this has not yet been applied in a sustainable manner as it requires annual negotiations which results in spotty maintenance. However, one outcome of the steadfast training and intense hand holding is that the regional governments are also able to independently carry out periodic and routine maintenance works with contracts to the private sector; subject to funds being made available.

Regional development and poverty alleviation: through an increase of the secondary network in good condition and decrease in transport costs along upgraded regional roads. It has been difficult to measure and directly attribute any impact of the project on poverty reduction. Nevertheless as the country enjoyed remarkable economic growth in the decade of project implementation the projects in a general manner, due to known linkages of transport interventions contributing to economic development, can be said to have contributed in a general manner to poverty alleviation. Nevertheless the project contributed to job creation in the regions through the works contracts (9687 jobs), as well as through the microenterprises (967 jobs), resulting in over ten thousand new jobs (10654) at the regional level. As no impact evaluation was carried out, no impacts were determined that could be directly attributed to the project that contributed to regional development. However the beneficiary perception surveys serve as a basis to infer the contribution of the roads to regional development. Given that the quality of the roads increased in quite a small percentage of the network, the project may be considered to have somewhat contributed to regional development, even without a quantifiable measured indicator.

The Project was able to largely achieve many of the output targets as detailed in the Results Framework Analysis, thus ensuring a substantial increase in the level of serviceability of the departmental road network The institutional aspects were less successful and implemented with some difficulty and challenges given the high rotation of regional government staff. At the central level, PVD did achieve early gains on institutional performance (use of force account, merger of the former rural and departmental entities). However, some of the ambitious reforms envisioned did not take place. In most of the Implementation Status Reports, the achievement of the Project toward its PDO was rated as Moderately Satisfactory, reflecting the modest progress achieved and targets met despite the difficulties experienced throughout implementation.

[18] The project maintained up to 110 microenterprises reflecting a 65% achievement of the revised target, over the life of the project. However, as only 10 microenterprises were created, this represents a 14% gain with respect to the intended target.

3.3 Efficiency

Rating: Modest before and after restructuring.

At appraisal a cost-benefit analysis (CBA) of a tentative mix of roads (including eight segments for which designs were well advanced) was carried out using the Road Economic Decision Model (RED) developed by the World Bank for the economic evaluation of investments and maintenance alternatives for low-volume roads. The RED model adopts the consumer surplus approach to estimate project benefits that are comprised of road user costs (vehicle operating costs, passenger time costs and accident costs) savings, which are estimated using road user costs relationships from the Highway Development and Management Model (HDM-4). The evaluation was performed for an analysis period of 15 years and adopted a discount rate of 14percent, which is the standard discount rate adopted in Peru since 2000. In all cases the assumptions included roads with traffic volumes above 50 vehicles per day (vpd). Roads classified are very low volume roads (less than 40 vpd) were evaluated using a Cost Efficiency Analysis (CEA) that estimates the total investment costs per beneficiary. This method was more appropriate for these roads because the benefits of rehabilitating them are generally harder to quantify as they are derived from providing a basic level of accessibility for previously isolated communities. In all cases, investments were estimated to have ERRs in the order of 25%, and in the case of very low volume roads, a cost of less than US$100 per person.

An ex-post economic evaluation was performed to determine the economic efficiency of the investments of the Project[19]. This analysis followed the approach used for the ex-ante evaluation, but with actual data on costs and impacts. The methodology of the ex-post analysis differed from that of the ex-ante analysis in two key way: (1) all of the rehabilitations in the Project were made to the same specification, while the ex-ante evaluation had assumed that there would be multiple rehabilitation alternatives; and (2) roads were classified differently in the ex-post analysis to provide results with a higher degree of granularity. The results of the ex-post evaluation show that the project, on the average, has an expected ERR of about 19%. In general, works on roads with traffic volumes above 100 vpd (about 60% of the works both in physical and financial terms) showed estimated ERRs well above appraisal while the lower traffic roads, because of the adjustments in methodology, proved to have lower ERRs although important social benefits.

The project as a whole was moderately efficient. The results of the ex-post economic analysis show that for very low volume roads the choice of intervention could be largely driven by social benefits rather than calculated economic rate of return, as the social implications could be far outweighed than could be represented by a numerical value. This leads to the conclusion that future roads projects with very low traffic volumes should incorporate the flexibility to allow for a menu of intervention types that could be applied depending on local conditions. Road engineering solutions need to be better designed, either having lower costs or reaching more beneficiaries, to be part of investment programs with favorable economic rates of return. Further details can be found in Annex 3 or the full report in the Project Files.

[19] Further details of this summary included in Annex 3, while the full report is in project files

3.4 Justification of Overall Outcome Rating

Rating: Moderately Satisfactory

The overall outcome ratings is Moderately Satisfactory (MS) based on the Moderately Unsatisfactory (MU) rating before restructuring and the MS rating of the overall outcome after restructuring weighted with the disbursement before restructuring and at the end of the project.

3.5 Overarching Themes, Other Outcomes and Impacts

(a) Poverty Impacts, Gender Aspects, and Social Development

Transport has been shown to have major positive effects on development and poverty reduction strategies. The project contributed, along with other exogenous factors, to reducing poverty at the regional level. The direct contribution of the project was not estimated nevertheless for example the creation of 10654 jobs contributed in a significant manner to household income for the families benefitting.

Given the extraordinary achievements on gender on institutional matters within the context of the PTRD, some lessons were extracted and recommendations shared with regional governments within a framework proposed to strengthen mainstreaming gender in regional roads programs. This initiative was carried out within the last months of project implementation by a consultant hired with PCD resources. In effect, this effort serves as an important basis for further work in the area, which regional governments are enthusiastic to pursue; however, for its sustainability, more resources and technical assistance will be needed. To note, within the PCD, out of 967 microenterprise jobs created, 20% went to women.

While gender was not an explicit focus area for PCD, the implementing agency took some proactive initiative to carry out a consultancy on the topic which serves to inform further programs such as PATS. The full report is included in project files, while highlights from a workshop carried out are included in the box below. Even if there were no major activities on gender in PCD, one should not underestimate the lessons and recommendations derived from PTRD, through the final consultancy and which could contribute at one point to mainstream gender in road management. However, there are still some challenges that need to be addressed to spill over these positive results at the regional level. For instance, to guarantee the sustainability of gender inclusion in road management, it will be necessary to foster participatory processes that involve public servants at the regional level to develop their own Gender Plans. More commitment is necessary from other entities of the public administration such as the Ministry of Economics and Finance. Gender inequalities within the teams that constitute regional directions and management structures need to be resolved as, for example, there is still a 28% gap in the wage between men and women.[20]

[20] Zapata, Op. Cit., 2014, pp 18-21.

Box 1. ***Taller Unificado de Género en la Gestión Vial*** (Unified Gender Road Management Workshop): good practice that involved the regional governments in the definition of gender actions.

- *Design of a Gender Plan for Gender Road Management.* This was developed in this Workshop in Lima during March 2014 with the participation of public servants from 9 Regional governments (Ancash, Apurimac, Ayacucho, Cajamarca, Cusco, Huancavelica, Lambayeque, Puno y San Martin).
- *Identification and selection of gender indicators for road interventions of regional governments.* With the regional governments, eight indicators, aligned with the ones for the follow up of the Gender Plan 2012-2017, were agreed
- *Application of a Gender Training Program for the public servants of Regional and Local Governments, which had as a starting point the training modules validated in PTRD.* This training program was developed during the *Taller.* In total, 22 persons participated, and 27% were women and 73% men. People came from Lima, 9 regional governments, 3 provincial municipalities and 12 Provincial Road Institutes. Its modules were adapted by the Pontifical Catholic University of Peru.
- *Design of instruments for gender baseline data collection.* From the Workshop three instruments for gender data collection were approved: a) survey on gender perspective for high level managers from PVD, b) survey on gender perspective for the Infrastructure Management and Transport Regional Government Direction, and c) survey on gender perspective for Provincial Road Institutes.

(b) Institutional Change/Strengthening

The considerable strengthening of the country's institutional framework of the road sector that took part between 2005 and 2010 can be to a certain extent attributed to the very rich and productive dialogue between the GOP and the Bank of which the subject project is only one element. These changes, although encouraged under the project, were carried out without loan financing or Bank participation. In particular:

At the start of the project the main institutions of the sector, both at the central and regional levels were in a state of flux, with PVD divided into *Provias Departamental* and *Provias Rural* divisions and performing a substantial amount of force account works. The fusion of *Provias Departamental* and *Provias Rural*, which in itself caused an upheaval that added to the delays in project implementation, constitutes a substantial step towards the consolidating of PVD as the premier entity focusing on technical support for the decentralization of the road sector. To that end, PVD stopped all involvement on civil works and distributed its road equipment among the regional governments. The originally expected role of PVD not only as a normative but also a regulatory agency did not materialize, as those functions have been assigned to the Directorate General of Roads (DGR) within the Ministry of Transport. The DGR is now in charge of developing and overseeing the compliance with road infrastructure norms; developing safety norms for design, signaling (type, materials, retroflectivity) and preparing related manuals; and introducing environmental requirements in coordination with the Ministry of the Environment that was created in 2009.

At the regional level, at the beginning of the project the regional governments were dealing with substantial duplicities in the area of road infrastructure and without a clear division of responsibilities between the RIMU under the Regional governments and the RRD answering to the MTC. By the end of the project, however, the regional RRD were absorbed by the regional governments, and the their role *vis-a- vis* the Departments of Infrastructure were clarified, with each region adopting a different approach to the process of inclusion and division of labor between the two units. The improvements achieved in term of organization and division of responsibilities was enhanced by the overdue process of reclassification of the road network and subsequent transfer of roads to their "natural" owners that also took place during the project period.

At the regional level the project was instrumental in (i) institutionalizing the routine of road expenditure planning in most regions (although the participatory aspect continues to be limited); (ii) strengthening the local capacity for contract management and financial management of civil works; (iii) starting the incorporation of environmental and social considerations in road works; (iv) practically terminating the use of force account for road works in most regions, except for a limited amount of emergency works or activities in isolated regions.

In summary: (i) the project was instrumental in decreasing and eventually eliminating force account at most regional governments (except for some remaining operations in isolated areas or in emergency conditions); (ii) duplicity of responsibilities at regional level was eliminated by regional governments absorbing the ministry of transport offices; (iii) responsibilities and roles of the various institutions and entities within MTC were sharpened; (iv) improved the normative and regulatory aspects of the regional road sector through the introduction of technical standards at the central entity followed by all regions; and (v) the road hierarchy definitions were completed.

(c) Other Unintended Outcomes and Impacts (positive or negative)

The targets for periodic maintenance were substantially exceeded largely given the efforts of PVD in establishing harmonized standards and technical documents to facilitate easier contracting of the works in a decentralized manner, as well as the efforts to secure financing for maintenance.

3.6 Summary of Findings of Beneficiary Survey and/or Stakeholder Workshops

A *Beneficiary Survey* concluded that for the most part the project did contribute to improving road conditions, as well as in many cases reducing the costs of travel for both passengers and freight. A notable recurring remark from the beneficiary survey could imply that further strengthening is needed to enhance specifically sustained and consistent maintenance works carried out over extended time periods across all regions, as well as strengthen communication programs so that public perceptions can be better influenced to appreciate real gains in road asset management practices.

Case studies were carried out on six road sections rehabilitated through the project in five regions. Two of these road sections were subsequently re-classified as national roads and were

paved by the national roads agency after the rehabilitation of the project. Further details are included in Annex 5. The key findings are summarized below:

(i) The rehabilitation of the secondary roads had positive effects on the local economy by energizing productive activities through improved access to markets.

(ii) The rehabilitation of regional roads has improved the integration of isolated communities, increasing mobility and accessibility to local resources, especially for tourism.

(iii) While the project did not achieve the intended reduction in transport tariffs, it led to the modernization of vehicle fleets and reduction of road traffic crash rates.

(iv) The rehabilitated roads are being affected negatively by the lack of resources dedicated to routine maintenance activities and the difficulty of obtaining additional resources.

A *Stakeholder Workshop* on lessons learned was held to gather information and feedback from the various stakeholders on the project's performance, impact on road asset management at the regional level, and on institutional evolution of PVD and regional agencies. The workshop included participation of high level representatives of six regional governments (Ayacucho, Cusco, Huancavelica, Pasco, Puno, and San Martin), Provias staff, IDB's Task Team Leader, and the WB teams for PCD closure and the preparation of a new operation for rural roads (PATS). The outcomes of the workshop helped convey the lessons learned and suggestions for the implementation of further road investment programs at the regional level. The main findings of the Workshop are presented in Annex 7, and some of the lessons learned are reflected in this ICR, as well as the Borrower's ICR.

4. Assessment of Risk to Development Outcome

Rating: Substantial

The project with great difficulty achieved some of the physical targets, but the target on routine maintenance, a basic requirement to ensure sustainability of the interventions was challenged to meet the goals. While there may be several external factors that impacted the project (such as reclassification of roads), even those roads that were completed within the PCD struggled to provide consistent minimum routine maintenance, as indicated by beneficiaries (Annex 5). Furthermore, funding to ensure maintenance continues to be rather ad-hoc as supreme decrees must be negotiated annually. The targets on rehabilitation and periodic maintenance have been substantially achieved thanks in large part to the PCD, and the tireless efforts and dedication of PVD staff as well as successive administrations in regional governments. At the central level, there are positive indications that continued assistance to sub-national entities would be forthcoming as the importance allocated to sound road asset management practices from the central government is exemplified by the implementation of various iterations of rural roads projects as well as PCD and the proposed new PATS program which promises an opportunity to further strengthen institutional capacity at the regional level. Further the commitment, interest and ownership of government is shown by resources committed (decrees discussed earlier, new programs being designed, workshop on lessons learned organized by government, commitment by government to continue supporting regional level,). In this sense the achievements of the PCD may have potential to be sustainable. It remains to be seen if the same commitment would continue in periods with more stringent budgetary conditions. However, given the performance

in the project on maintenance, as well as findings in the beneficiary survey, the evidence shows that the outcomes are at substantial risk if no further positive and concrete actions (secured financing to ensure execution of maintenance works, additional institutional strengthening on the importance of maintenance and institutionalization on a wide basis of sound asset management practices) are taken early.

5. Assessment of Bank and Borrower Performance

5.1 Bank Performance

(a) Bank Performance in Ensuring Quality at Entry

Rating: Moderately Satisfactory

At entry, the project was well prepared and articulated objectives and components that were highly relevant to the main goals of the CPS in place at the time and provided a facilitative opportunity to further support the GOP's priority actions within the decentralization agenda. However, project design included some apparent cumbersome and duplicative procedures which led to inefficient approvals and lengthy no-objection processes. Initial dialogue on the project seems to have started almost 4 years prior to the approval, reflecting perhaps the difficult nature and complex environment in which the project was expected to be implemented The project seemed very ambitious in its design, particularly as it did not seem to allow for room for learning (while on the other hand, the rural roads project, had been implemented in two successive iterations, over a 10year period in a centralized manner before advancing to a decentralized approach). With the regional governments, in hindsight, it seems the project did not contemplate a steep learning curve and build in options for "recovery" or "exit".

(b) Quality of Supervision

Rating: Moderately satisfactory

During project implementation, the Bank carried out approximately two missions per year (there are 17 ISRs filed from project start to close). The project was supervised with seamless coordination between the financiers, and preparation of joint aide-memoires signed by the two banks, the implementing agency as well as the Ministry of Finance. The team was instrumental in proposing options including technical and operational milestones in order to achieve the "inflection point" achieved after the mid-term review. The team carried out great efforts to coordinate financing with competing government programs, as well as for the rich dialogue of different technical alternatives in which the supervision team leveraged their global experience from other countries and in this way was instrumental in the implementation of a pilot that expanded the range of technical interventions. The team could have more aggressively pursued options to remedy the project including restructuring of components that seemed to be no longer relevant given the evolving dynamics within the transport sector. For example it had been determined that aspects related to regulating transport were not within the purview of PVD; and it seems the reorganization envisioned for PVD was no longer a priority after the merger of the *Provias departamental* and *Provias Rural*. Further, the dissolving of the *Consejo Nacional de Descentralizacion* seemed to also lead to the dissolving of the multi-sectoral advisory committee, without other alternatives proposed, yet this was an important aspect at project start stipulated as

a legal covenant, and did not seem to feature during project implementation. While the team could have also more actively pursued partial loan cancellation as it became increasingly evident that the project would have great difficulty disbursing the full amount of the loan given the extensive time taken to initiate works; this was not a politically viable option during implementation within the sensitive context of decentralization. The team could have also more actively pursued a proper implementation of the M&E framework foreseen in the PAD. Nevertheless, the team did provide close follow up and established quarterly monitoring targets that served to help the project move beyond the initial delays and substantially achieve the works targets.

(c) Justification of Rating for Overall Bank Performance

Rating: Moderately Satisfactory

Taking into account both aspects entry and supervision, the overall rating is moderately satisfactory.

5.2 Borrower Performance

(a) Government Performance

Rating: Moderately Satisfactory

The government is to be commended for the constant efforts in training and retraining of regional counterparts who suffered high levels of rotation. At the same time, the government, along with the bank, could have been more proactive in exploring options to exit. For example after mid-term, there was a suggestion to explore the possibility of financing low cost paving options and scaling up the effort. In the end a pilot was carried out but not replicated due to the timing in which it was carried out during the final months of project implementation thus not allowing room for new contracts with the new technologies. Partial cancellation was only considered during the last six months of implementation. The important turned around of the project in 2010 was achieved thanks to the active role of PVD in ensuring "person to person" assistance to the regional technical staff. However, in part because of the reluctance of the government to spend loan funds in consultants, PVD did not count with the necessary human resources to implement a more active role earlier in the project implementation period.

(b) Implementing Agency or Agencies Performance

Rating: Moderately Satisfactory

The agency performed satisfactorily in providing training to successive sets of newly transitioned governments, including intensive hand holding.

The agency developed a methodology for updating the banks and instituted a joint supervisions mission schedule, presenting each mission with information in a well prepared and organized format. The agency continued the practice accumulated from years of implementation of rural roads projects to provide in a timely manner detailed project progress reports, as well as

complying with fiduciary reporting requirements in a satisfactory manner. The agency performance on the rehabilitation and periodic maintenance works is satisfactory while the execution of the routine maintenance component is moderately unsatisfactory. The agency performance on M&E aspects could also be improved given the agency reported on a cumulative number of km of routine maintenance which obscured the real achievements as the framework established annual targets.

The agency performance on institutional strengthening was unsatisfactory (i) very little attention was paid to the institutional aspects beyond training on compliance with world bank policies; (ii) only during the last 6 months (too late) of project implementation was there intense attempt at implementing capacity building, with technical courses approved for PVD staff on an ambitious training program[21] (iii) no technical training was offered to regional governments (for example on road safety, on road asset management techniques, on road maintenance, on low cost paving, on budgetary planning, or any number of technical courses that may contribute to sound asset management); (iv) little to no attention was paid to the expected reforms of PVD, nor to propose a restructuring of the institutional components when the reforms proposed were no longer deemed relevant; (v) reporting on institutional strengthening activities throughout the project failed to go beyond a mere reporting of headcount of staff participating and number of workshops (presumably held to train and re-train regional counterparts on compliance with WB policies.

(c) Justification of Rating for Overall Borrower Performance

Rating: Moderately Satisfactory

Taking into account the above mentioned aspects the overall rating is moderately satisfactory.

6. Lessons Learned

Project Design

- Participatory planning should ensure the meaningful participation of stakeholders that are able not only to prioritize their needs but also to have a voice in ensuring that the identified needs are met. When the participation of local actors is prevented for lack of funds, project design should include the financing of their mobilization and participation.

- A program with a rigid and perhaps overly prescriptive solution for road interventions in diverse and geographically dispersed countries may not be appropriate for future projects. A pilot carried out at the end of the project exhibited promising results that could be considered in future projects. A more gradual approach with flexibility, allowing the possibility of a pilot for demonstrative effects and later scaling up could be useful when new mechanisms or modalities (decentralized implementation) are proposed.

[21] During the last few months of the project the implementing agency submitted for approval a training program which was largely implemented, and included courses such as project management

- The selection of indicators at design stage for projects with particular focus on institutional evolution should pay more attention at the outset in designing appropriate milestones that could potentially or feasibly be achieved within the project duration. For example, given the long known challenges in global practice on maintenance, milestones could have been explored concerning the allocation of financing to ensure at the very least, the financial incentives are in place, in addition to the indicators regarding quality to ensure the interventions continue to be carried out in an incremental manner.

- The project represents a missed opportunity for including training on technical aspects including road safety etc. –applies for staff of implementing agencies as well as subnational decentralized entities. While the particular project suffered high rotation, there was intense training carried out (to comply with policies); had the training included technical aspects, as well as focus on national systems in place, the high rotation would result in a bigger pool of trained professionals entering the market with transferable skills that would be relevant in other projects within the national market. With a greater emphasis on principles (rather than procedures) eventually this could be achieved, but would require radical changes to the approach to development work so as to lower transaction costs

Operational

- Projects involving a large number of sub-national governments should have the flexibility to incorporate a wide (albeit manageable) range of approaches and solutions. They might be necessary to secure the ownership of the project from entities with completely different views and needs. In this respect, project design should explore the potential gains from the acceptance of sub-optimal approaches (e.g. reasonably premature investments) if they are the obstacles for a fruitful dialogue on institution building.

- Large and voluntary participation of sub-national governments in Bank financed projects might be problematic if financial constraints are not an issue. In that case, projects should either focus on those governments that a-priori show interest in the project principles or when there is a central government mechanism that strongly encourages their participation. In this regard, the Bank and the government should explore ways to encourage non-financial incentives for efficient road management (e.g. increased transparency, NGOs participation, etc.)

- The noticeable turnaround of the project after the mid-term review was achieved through a "hands on" support of PVD that provided on the job training to the technical staff at the regions. The success of the approach suggests that direct technical assistance is a more efficient tool for delivering the transfer of know-how on specific technical matters than training through seminars and workshops. The latter, however, remain a powerful way of encouraging the development of policies, processes, trends and the adoption of new ideas in management.

Decentralization

- Using country systems in place and strengthening those systems are more adequate for the implementation of development projects, particularly in decentralized contexts. The high

rotation experienced in the project caused inefficient training and re-training, resulting in intensive hand-holding in order to advance project implementation. For this particular project training was directed largely to ensure compliance with the financing entities' policies, particularly in procurement. The availability of lending mechanisms that adopt strengthened country systems is of paramount importance, particularly if development institutions aim to increase sustainable institutional strengthening that leaves in place structures and systems relevant to the existing context.

- Governance: one of the benefits of having ring fenced projects is the possibility to minimize risks due to governance failures. Anecdotal evidence shows that the governance at the regional level in Peru is vulnerable to political interference and capture (with several regional leaders facing judicial charges). The extent to which the road sector is specifically involved in these cases is yet to be determined, however it is a global challenge that the road sector faces (see recent IEG report on subject). For this project, although allegations were received and investigations launched, the robust systems offered by the financing entities policies prevented governance failures within the project. For future operations, it is advisable to establish an adequate internal control mechanism, in order to verify the information submitted by the bidders, including the authenticity of certificates, before signing the contracts.

7. Comments on Issues Raised by Borrower/Implementing Agencies/Partners

(a) Borrower/implementing agencies

The implementing agency did not raise any issues.

(b) Cofinanciers

The project was implemented jointly with IADB, who did not raise any issues.

(c) Other partners and stakeholders

The PAD describes participation of specialized NGOs in monitoring and evaluation, however this did not take place.

Annex 1. Project Costs and Financing

Project Costs and Financing

(a) Project Cost by Component (in USD Million Equivalent)

Components	Appraisal Estimate (USD millions)	Actual/Latest Estimate (USD millions)	Percentage of Appraisal
1.Preparation of Participatory regional road planning	**5.45**	**4.65**	**85%**
Preparation and updating of plans	0.25	0.12	48%
Feasibility studies	1.20	0.90	75%
Technical studies	4.00	3.63	91%
2. Upgrading of regional roads	**34.71**	**32.60**	**94%**
Rehabilitation	27.50	20.22	74%
Periodic maintenance	4.73	9.70	205%
Supervision	2.48	2.67	108%
3.Routine Maintenance of regional roads	**3.39**	**2.06**	**61%**
4. Institutional capacity building & financial audits	**3.95**	**2.16**	**55%**
5. Project administration	**0.00**	**0.00**	**100%**
Total Baseline Cost	**47.50**	**41.37**	**87%**
Contingencies	2.0	0.0	0%
Total Project Costs	**49.50**	**41.47**	**84%**
Front-end Fee IBRD	0.50	0.13	26%
Total Financing Required	**50.00**	**41.60**	**83%**

(b) Financing

Source of Funds	Type of Co-Financing	Appraisal Estimate (USD millions)	Actual/Latest Estimate (USD millions)	Percentage of Appraisal
Borrower		100.00	79.5	79.5
Inter-American Development Bank		50.00	45.97	91.94
International Bank for Reconstruction and Development		50.00	41.60	83.20

Annex 2. Outputs by Component

1. The components and achievements described in the Annex 2 are with respect to the formally revised targets, as approved by World Bank management in a level two restructuring in June 2010. Table 2-1 comparing the achievements to the original targets is included below. As discussed in the Results Framework and ICR, the PDO did not change, however the indicators were reduced, as previously explained in the ICR, namely to reflect revised construction costs and realistic targets in the context of project implementation, such as reduced number of participating regions, and reclassification of roads.

baseline	revised target	actual value achieved by closing	**% achieved of Revised target**	*original target*	*% achieved of original target*
PDO Indicators					
1. reduced transport tariffs					
n/a	n/a	n/a	**n/a**	*10%*	*No data*
2. increase Quality of regional transport infrastructure*					
9%	17%	16%	**94%**	*35%*	*46%*
*new Baseline due to network increase to 23740km					
intermediate outcome indicators					
1. number of participatory regional road plans					
8	24	24	**100%**	*20*	*120%*
2. number km rehabilitated					
0	1781	1562	**88%**	*2200*	*71%*
3. number km periodic maintenance					
0	2202	3541	**161%**	*2700*	*131%*
4. number km routine maintenance					
2706	4219	2570	**61%**	*4900*	*52%*
5. number microenterprises					
100	169	110	**65%**	*180*	*61%*
6. percent government institutional agreements					
0%	71%	71%	**100%**	*100%*	*71.00%*

Component 1: Participatory Regional Road Planning.

Preparation of Participatory Regional Road Plans:

2. At closing, the PCD program had financed the preparation of 24 Participatory regional road plans, representing the 100% of the target as mentioned in the ICR to focus on those regions that were interested in participating in the PCD. The preparation of the Participatory Plans includes: a diagnosis of the roads sector in a particular region; an analysis of the demand and supply for transport services and infrastructure; and a prioritization and evaluation of a menu of road investment options. The resulting participatory plan contributes in identifying the sub-project priorities that could be funded under the project.

Component 2: Road Rehabilitation and Periodic Maintenance

Kilometers of selected regional road segments rehabilitated:

3. The project contributed in a significant manner to improve the quality of the roads. As a result of the interventions financed through PCD, since the beginning of the program in 2007, through 2014, a total of 1562.5 kilometers of regional roads have been rehabilitated allowing for better flow and increased traffic on these previously bad roads. This represents 88% of the target of 1,781 kilometers agreed upon in the Second Loan Amendment. The original target was revised through restructuring to reflect more realistic targets and updated construction costs.

4. The below table shows the cumulative number of km of regional roads rehabilitated:

Table 2-2: Kilometers rehabilitated per year

	2007	2008	2009	2010	2011	2012	2013	2014	Total (Km)
Rehabilitation	6.1	15.2	31.7	268.9	209.2	316.0	613.5	101.9	1562.5

Kilometers of selected regional road segments receiving periodic maintenance:

5. The program initially considered the target of 2,700 kilometers for periodic maintenance of the roads rehabilitated through the PCD Program. Due to increased construction costs, as well as delays experienced at the start of the project, along with the reclassification of roads; the initial targets were formally revised through project restructuring. The new target was established as 2,202 kilometers of roads to receive periodic maintenance through the program. However, the target was substantially exceeded due to extensive technical support provided by the implementing agency PVD. The project achieved a total of 3,540.6 kilometers.

6. The following table shows the km of periodic maintenance performed in each year:

Table 2-3: Periodic Maintenance

	2007	2008	2009	2010	2011	2012	2013	2014	Total (Km)
Periodic Maintenance	142.6	961.9	701.1	293.1	52.7	144.6	734.2	510.5	3540.6

Component 3: Routine Road Maintenance

Mechanized routine maintenance:

7. Since the beginning of the program until June 2014, a total of 53 sections of the roads received mechanized routine maintenance. On average, each year, 652.9 kilometers received mechanized routine maintenance. Until 2010, no mechanized routine maintenance was executed. This is the main reason for its low completion.

Manual routine maintenance:

8. The rehabilitated regional roads require continued interventions with manual routine maintenance activities, in order to preserve the investments. This intervention also creates local jobs, including for women through the use of microenterprises that are responsible for the labor – intensive works.

Routine Road Maintenance

9. The table below shows the number of km of routine maintenance carried out in each year in a decentralized manner by the regional governments. In the first six months of 2014, 558km (of the transferred network) received routine maintenance interventions. The number of km varied each year and suffered some decreases in 2013 due to reduced resources. The annual average km receiving routine maintenance throughout the project period is about 2570km which is about 61% of the final target, which was reduced to reflect changed circumstances in the project, including reclassification of some of the roads which would have been maintained, refer to Section 2.2.

Table 2-4: Routine Road Maintenance

	2007	2008	2009	2010	2011	2012	2013	2014
Mechanized RM	0.0	0.0	0.0	361.7	453.1	1188.5	608.4	0.0
Manual RM Transferred	2446.1	2415.8	2599.2	2514.2	2302.9	1890.6	871.9	558.4
Manual RM Rehabilitated	0.0	0.0	21.3	0.0	39.4	107.9	175.7	0.0
Total Routine Maintenance	**2446.1**	**2415.8**	**2620.5**	**2875.9**	**2795.3**	**3186.9**	**1655.9**	**558.4**
Target	2706.0	2706.0	3200.0	3500.0	4200.0	4219.0	4219.0	4219.0
%	**90.0**	**89.0**	**82.0**	**82.0**	**67.0**	**76.0**	**39.0**	**13.0**

Number of micro-enterprises participating in activities under the Project

10. Manual Routine Maintenance was achieved by regional governments with the use micro-enterprises. The initial target which was established in the Loan Agreement was 180 micro-enterprises. However, this target was decreased in the Second Amendment of the Loan Agreement to 169. By June 2014, 110 micro-enterprises were involved with different regional governments. 967 jobs (197 women) were created. As the number of microenterprises performing maintenance is directly linked to the number of kilometers receiving routine maintenance, the reduction of the target in the latter resulted in a reduction in the target of the former.

Component 4: Institutional Strengthening

11. Technical assistance and training: This subcomponent measures the number of people trained or benefited of the workshops, internships, technical assistance and other learning events organized under the PCD framework. Throughout the period of execution of the program, a total

of 6,938 people were trained in different thematic areas, such as finance and technical management, environmental and social safeguards, and monitoring and evaluation. This component also includes the procurement of goods. As of June 2014, 171 units of equipment were acquired to support the work regional governments in managing their road assets. The scope of further institutional activities as explained in Section 2.2 was also affected during implementation.

Percentage of participating regions having successfully implemented their institutional arrangements

12. The original Loan Agreement considered a target of 100% of the Institutional Arrangements successfully implemented by the Regional Governments. However, in the second amendment of this Loan Agreement a target of 71% was defined to focus only on those regions that continued to show interest in the program (as expressed in Section 2.2). 17 regions successfully implemented their institutional arrangements. This represents 100% of the established target. However the achievements on institutional matters are discussed in the main section of the ICR.

13. Table 2-5 below summarizes the project achievements and jobs created per region.

Region/ Department	2. Km of selected regional road segments rehabilitated	3. Km of selected regional road segments receiving periodic maintenance	5. Number of Microenterprises participating in activities under Part C of the project	6. Percentage of participating Region as having successfully implemented their Institutional Agreements	Jobs created
Amazonas	140.4	80.8	0	YES	668
Ancash	0.0	0.0	0	NO	0
Apurimac	92.0	272.5	4	YES	623
Arequipa	0.0	103.7	0	YES	68
Ayacucho	89.9	1029.7	21	YES	1170
Cajamarca	79.4	97.5	33	YES	433
Cusco	114.0	276.5	10	YES	729
Huancavelica	126.9	338.1	6	YES	820
Huánuco	19.2	298.8	17	YES	328
Ica	63.2	165.5	4	YES	402
Junín	89.8	160.8	4	YES	573
La Libertad	296.3	269.9	0	YES	1475
Lambayeque	0.0	71.4	0	NO	47
Lima	0.0	0.0	0	NO	0
Loreto	0.0	0.0	0	NO	0
Madre de Dios	0.0	0.0	0	NO	0

Region/ Department	2. Km of selected regional road segments rehabilitated	3. Km of selected regional road segments receiving periodic maintenance	5. Number of Microenterprises participating in activities under Part C of the project	6. Percentage of participating Region as having successfully implemented their Institutional Agreements	Jobs created
Moquegua	0.0	0.0	0	NO	0
Pasco	89.4	153.4	5	YES	529
Piura	69.8	0.0	0	YES	306
Puno	162.8	108.1	4	YES	820
San Martin	86.5	114.0	2	YES	491
Tacna	0.0	0.0	0	YES	0
Tumbes	42.9	0.0	0	YES	0
Ucayali	0.0	0.0	0	NO	188
Total	**1562.4**	**3540.6**	**110**	**71%**	**9687**
Target	**1781.0**	**2202.0**	**169**	**71%**	**n/a**
% Completion	**88%**	**161%**	**65%**	**100%**	**n/a**

Annex 3. Economic and Financial Analysis

Beneficiaries

The Project Appraisal Document (PAD) identified two tiers of populations that were expected to benefit from this Project. The populations living in the vicinity of the roads would gain greater access to social services and markets, and would also benefit from the increased economic activity along the roadways. In addition, populations all over the region would benefit from the improvement of key links in the roadway network, allowing them to reach farther destinations quicker and cheaper.

Methodology

To predict the economic efficiency of the Project, the PAD performed an ex-ante economic evaluation on a tentative mix of road rehabilitations investments. This work was complemented by also conducting economic evaluations of several road rehabilitations performed during the first year of the Project, using data on their actual costs and benefits. The results of both of these analyses are summarized in this section to provide a comparison baseline for the ex-post analysis that was conducted at project closing. This final analysis used the same general methodology of the earlier ones but with real data on investment costs and benefits accrued. This work was performed by local consultant and is detailed elsewhere; it is only summarized briefly in this section.

Ex-Ante Economic Evaluation

The evaluations were performed two different ways depending on the level of traffic of the roads. Investments in roads with higher than 40 Average Annual Daily Traffic (classified as *low-volume roads*) were evaluated using a Cost Benefit Analysis (CBA). This allowed the explicit consideration of the costs and benefits accrued to long-distance traffic and the calculation of the corresponding indicators of Economic Rate of Return (ERR) and Net Present Value (NPV). On the other hand, investments in roads with lower than 40 Average Annual Daily Traffic (classified as *very-low volume roads*) were evaluated using a Cost Efficiency Analysis (CEA) that estimates the total investment costs per beneficiary. This method was more appropriate for these roads because the benefits or rehabilitating them are generally harder to quantify as they are derived from providing a basic level of accessibility for previously isolated communities.

The CBA of *low-volume roads* was performed using the Roads Economic Decision Model (RED) that was developed by the World Bank specifically for evaluating investment in improving rural roads. This model uses a “consumer surplus” approach to calculate user savings (vehicle operating costs, passenger time costs, and accidents) following vehicle speed and cost relationships from the Highway Development and Management Model (HDM-4). The characteristics of the roads and other contextual factors are also considered. The evaluation assumed a 15-year horizon with a discount rate of 14 percent.

A representative mix of 51 tentative road sections, totaling 2,230 km, was analyzed for 5 possible rehabilitation alternatives. The alternative with the lowest lifecycle cost was assumed to be selected by the RED model. This yielded an ERR of 26 percent with a global NPV of US$ 63.4 million on the tentative investment portfolio of US$ 113.2 million. A sensitivity

analysis of plus and minus 20 percent on the benefits and costs yielded a worst-case scenario ERR of 17 percent, which is still satisfactory (greater than 14 percent).

First Year Evaluation

The eight roads shown in Table 4-1 were rehabilitated during the first year of the program, which provided the PAD an opportunity to perform an economic evaluation of these projects with actual data. These roads were selected using the multi-criteria analysis framework that was developed as the main planning instrument of the Project. These rehabilitations had a total cost of US$ 11.7 million, and were estimated to have benefited 338,000 people living within 5 kilometers of the roads (the standard definition of a 'beneficiary' at the time). The economic evaluation found that these investments had an overall ERR of 25 percent, representing a NPV of US$ 5.58 million. A sensitivity analysis found that increasing costs by 20 percent resulted in a still favorable ERR of 20 percent. The same conclusions was found for decreasing benefits by 20 percent, which reduced the ERR to 19 percent. These rates of return were still considerably higher than the 14 percent interest rate of the country, and very similar to those estimated in the ex-ante evaluation.

Table 4-1: First Year Economic Evaluation Results

Road Section (Department)	Length (km)	Traffic (AADT)	Beneficiaries per km.	Investment (000' US$/km)	Average Roughness (IRI)	NPV (M US$)	ERR (%)
Palian – Vilcacoto (Junin)	3.9	148	2,588	31.4	10	1.2	34
Vilcacoto - Abra Huaytapallana (Junin)	24.4	80	2,557	31.3	10	0.2	20
Pasco - Desvio Gollariquizga (Pasco)	14.5	188	2,179	82.8	7	0.89	30
Desvìo Gollariquizga – Tambopampa (Pasco)	18.6	183	2,179	96.5	7	0.15	16
Chincha – Huancho (Ica)	22.1	128	3,170	21.5	10	1.28	68
Chilete Contumaza (Cajamarca)	40.2	74	443	32.3	10	0.2	17
Paima – Ayabaca (Piura)	53.4	130	772	49.4	10	1.41	26
Huambutio – Huancarani (Cusco)	28.0	119	1,097	71.7	10	0.57	21
Sacanche – Saposoa (san Martin)	21.7	71	706	20.4	10	0.14	21
Sacanche – Saposoa (Ayacucho)	24.3	103	762	39.3	10	0.63	28
Total/Average	**251.1**	**122**	**1,645**	**46.6**	**Na**	**5.58**	**25**

One of the key takeaways from Table 4-1 is the high degree of heterogeneity observed between different projects. Rehabilitation costs ranged from US$ 96,500/km to US$ 20,400/km and beneficiary estimates ranged from 3,170ppl/km to 443ppl/km. This large range of project characteristics suggests that in the future it is necessary to look at the project level in order to understand true economic impacts. Looking at just the averages could be misleading. Nonetheless, all projects achieved acceptable ERRs, even the ones with the highest costs and lowest benefits.

Ex-Post Economic Evaluation

An ex-post economic evaluation of the Project was conducted (by a local consultant) to determine the economic efficiency of the investments of the Project[22]. This analysis followed the approach used for the ex-ante evaluation, but with actual data on costs and impacts. The cost data summarized in Table 4-2 was obtained by analyzing final costs for different types of civil works. The methodology of the ex-post analysis differed from that of the ex-ante analysis in two key way: (1) all of the rehabilitations in the Project were made to the same specification, while the ex-ante evaluation had incorrectly predicted that there would be multiple rehabilitation alternatives; and (2) roads were classified differently in the ex-post analysis to provide results with a higher degree of granularity. The implications of both of these are discussed later in this section.

Table 4-2: Average Investment Costs

Component	Ex-Post Evaluation Inputs		
	Unit Cost (US$ /km)	Km	Total Cost (US$)
Rehabilitation of Rural Roads	66,619	1,535	102,355,368
Periodic Maintenance	7,940	3,555	28,226,276
Supervision of Rehabilitations	5,547	1,483	8,224,727
Supervision of Routine Maintenance	640	3,258	2,084,973

Road user costs were estimated for the five motorized vehicle types shown in Table 4-3. Most of the unit costs increased considerably over the years based on a variety of data sources (if specific evidence was not available, cost parameters were inflated using aggregate indices). On the other hand, there was little evidence that the utilization and loading parameters changed decisively one way or the other. The value of time for car passengers was estimated based: on an average income of 1,638 soles per month, 176 working hours per month, 70 percent work-related trips, and non-work time being valued at 25 percent of work time. For bus and truck passengers, the monthly income was assumed to be 750 soles with the same assumptions as for car passengers. The average cost of accidents was assumed to remain the same as in the ex-ante evaluation, at US$100,000 per death, US$5,000 per injury, and US$500 for material damages only.

[22] For additional information beyond this brief summary please see the detailed study submitted by the local consultant included in the project documentation.

Table 4-3: Road User Costs and Characteristics

Costs	Ex-Ante Evaluation Inputs					Ex-Post Evaluation Inputs				
	Car	4-Wheel Drive	Bus	Light Truck	Medium Truck	Car	4-Wheel Drive	Bus	Light Truck	Medium Truck
Unit Costs										
New Vehicle Cost (US$/vehicle)	11,855	18,579	89,700	69,000	86,250	11,784	18,468	89,162	68,586	85,733
New Tire Cost (US$/tire)	37.4	63.8	274.1	110.9	274.1	46.9	80.1	344.1	139.2	344.05
Fuel Cost (US$/liter)	0.43	0.43	0.44	0.44	0.44	1.29	1.33	1.33	1.33	1.33
Lubricant Cost (US$/liter)	2.32	2.32	2.32	2.32	2.32	3.34	3.34	3.34	3.34	3.34
Maintenance Labor Cost (US$/hour)	2.04	2.04	2.35	2.35	2.35	3.77	3.77	4.35	4.35	4.35
Crew Cost (US$/hour)	0	0.78	2.74	1.65	2.12	-	1.46	5.08	3.06	3.91
Passenger Time (US$/hour)	1.2	1.2	0.6	0.6	0.6	2.57	2.57	1.18	1.18	1.18
Utilization and Loading										
Kilometers Driven per Year (km)	25,000	40,000	120,000	60,000	90,000	25,000	40,000	120,000	60,000	90,000
Hours Driven per Year (hrs.)	480	960	2,496	1,440	2,400	480	960	2,496	1,440	2,400
Service Life (years)	10	8	10	8	10	10	8	10	8	10
Percent of Time for Private Use (%)	100	0	0	0	0	100	0	0	0	0
Number of Passengers	3	3	40	1	1	3	3	40	1	1
Gross Vehicle Weight (tons)	1.37	2.18	13.63	6.86	15.4	1.37	2.18	13.63	6.86	15.4

Estimates of traffic composition and traffic growth where obtained from previous studies conducted by the Ministry of Transport. These are shown in Table 4-4. The growth of traffic was estimated by assuming an elasticity of transportation demand with respect to income of around one. Over the course of this project Peru has experienced extraordinary economic growth, ranging from 6-8% per year. Based on this a conservative traffic growth rate of 7% was assumed. The GDP of rural areas has grown even faster, leading this growth rate estimate to be conservative for the areas of influence of the Project. The long-term growth rate was decreased to 5%.

Table 4-4: Traffic Composition and Growth

	Variable	Car	4-Wheel Drive	Bus	Light Trucks	Medium Trucks
Ex-Ante Evaluation	**Traffic Composition (%)**	20%	20%	5%	10%	5%
	Avg. Yearly Traffic Growth (%)	3.5%	3.5%	2.5%	2.5%	2.5%
Ex-Post Evaluation	**Traffic Composition (%)**	31%	36%	3%	18%	11%
	Avg. Yearly Traffic Growth years 1 -5 (%)	7.0%	7.0%	7.0%	7.0%	7.0%
	Avg. Yearly Traffic Growth years 6 -15 (%)	5.0%	5.0%	5.0%	5.0%	5.0%

Table 4-5 shows the results of the economic evaluation. Roads were classified into four types based on the amount of traffic on them. This was different than in the ex-ante evaluation which only used two road categories. Road traffic data was obtained from pre-investment feasibility studies conducted before each road rehabilitation. The roads with AADT lower than 50 were analyzed with the CEA approach and those higher where analyzed with the BCA approach using the RED model. The local consultant that performed this work had analyzed all of the roads with the RED model, but the ICR team decided to use the CEA instead for those with low traffic volumes because it was a more appropriate analysis methodology and allowed for a better comparison with the ex-ante results. This was estimated by summing the discounted costs of rehabilitating and mentioning the road for 15 years and normalizing it by the population of beneficiaries estimated in the project feasibility studies. Both the CEA and BCA analyses assumed a 15 year time horizon and 14% discount rate, just as in the ex-ante analysis.

Table 4-5: Results of Ex-post Economic Evaluation[23]

Type of road	Length (km)	Beneficiaries per km	AADT	Investment (Million US$)	Investment ($ per km)	NPV (Millions US$)	ERR	Costs per Beneficiary ($/pax)[24]
AADT< 30	56.26	563.74	20.5	2,864	50.90	--	--	186.4
30<AADT < 50	179.89	773.13	42.2	10,428	57.97	--	--	136.0
50<AADT<100	416.72	598.90	70.35	27,892	66.93	-13.32	1.7%	--
AADT >100	883.56	912.24	223.4	61,171	69.23	97.72	38.8%	--
Total	1,536.43	798.21	5,780.09	102,355	66.62		27.2%[25]	148

[23] The local consultant had performed a BCA on all of the road classes, but the ICR team reached the conclusion that the CEA methodology was better applicable for the lower volume roads.

[24] This column was calculated by ICR team.

[25] ICR team corrected mistake in local consultants work. Average ERR was computed using project investment shares.

The results of the economic evaluation provide important insights into the strengths and weaknesses of the Project. Two key factors caused the ERR to be lower than in the ex-ante analysis: (1) rehabilitation costs were 37% higher than expected, with maintenance costs being even higher, and (2) the ex-ante analysis assumed incorrectly that the Project would have different types of rehabilitations for different local conditions, and therefore be able to tailor investments better to match expected benefits. This led the ex-ante analysis to have the RED model automatically select the interventions that were the most economically favorable, just as they would be selected in the Project. However, this assumption was overly optimistic as the Project since the beginning was not designed with the ability to tailor rehabilitations to local conditions. As a result, the ex-post analysis indicates that the Project spent as much on roads with 50<AADT<100 as on those with AADT >100, even though the latter ones had vehicular traffic that was three times greater, allowing many more people to benefit. Investments in these higher volume roads saw an exceptional ERR of 31.4% (higher than ex-ante analysis) because they were highly trafficked. On the other hand the lower volume roads saw a negative ERR because the rehabilitation costs were simply too large compared to the traffic on the roads and the potential set of beneficiaries. This leads to the conclusion that future rural roads projects should incorporate the flexibility to allow for a menu of intervention types that could be applied depending on local conditions.

A similar conclusion can be drawn about the roads with AADT lower than 50 as they had CEA that exceeded $100/beneficiary, which is often used as the cutoff measure for cost effectiveness. Engineering solutions need to be better designed, either having lower costs or reaching more beneficiaries, to be part of investment programs with favorable economic rates of return.

Annex 4. Bank Lending and Implementation Support/Supervision Processes

(a) Task Team members

Names	Title	Unit	Responsibility/ Specialty
Lending			
Keisgner De Jesus Alfaro	Senior Procurement Specialist	LCSPT	
Sally L. Burningham	Sector Manager	LCSDE	
Maria Elizabeth Dasso	Sr. Social Development & Civil	LCSSO	
Tatiana S. Daza	Senior Executive Assistant	TWI	
Mohammed D. E. Feghoul	Lead Municipal Engineer	MNSSD	
Maria Emilia Freire	Senior Adviser	UDR	
Patricia Mc Kenzie	Sector Manager	AFTME	
Aurelio Menendez	Sector Manager	LCSTR	
Isabella Micali Drossos	Senior Counsel	LEGAM	
Xiomara A. Morel	Sr Financial Management Specialist	LCSFM	
Alexandra P. Orellana Bonilla	Program Assistant	CPALS	
Nicolas Peltier-Thiberge	Asst. to the President	EXC	
Fernando Rojas	Lead Public Sector Management	LCSPS	
Marco Antonio Zambrano Chavez	Consultant	LCSEN	
Alonso Zarzar Casis	Sr Social Scientist	LCSSO	
Supervision/ICR			
Maria Margarita Nunez	Sr Highway Engineer – TTL (supervision)	GTIDR	
Nicolas Peltier-Thiberge	Asst. to the President – TTL (entry / early supervision)	EXC	
Ana Lucia Jimenez Nieto	Financial Management Specialist	LCSFM	
Selene del Rocio La Vera	Procurement Specialist	LCSPT	
Maria Virginia Hormazabal	Finance Officer	CTRDM	
Anna R. Okola	Transport. Engineer – ICR TTL	GTIDR	
Aracelly Woodall	Sr Program Assistant	GTIDR	
Sebastian Elias Guerrero	Consultant	GTIDR	
Mirtha Pokorny	Consultant	GTIDR	
Pablo Gonzalez Rueda	Consultant	GTIDR	
Karla Dominguez Gonzalez	Consultant	GTIDR	
Jorge Minaya Osorio	Temporary	GTIDR	
Raul Tolmos	Environmental Specialist	GENDR	
Rodrigo Archondo-Callao	Sr Highway Engineer	ECSTR	
Maria Luz Caballero Alonso	Consultant	SEGES	
Maria Elizabeth Dasso	Sr. Social Development & Civil	LCSSO	
Nicolas Drossos	E T Consultant	LCSFM	
Joseph Paul Formoso	Senior Finance Officer	CTRLA	
Nelly Ikeda	Financial Management Specialist	LCSFM	
Patricia Mc Kenzie	Sector Manager	AFTME	
Isabella Micali Drossos	Senior Counsel	LEGAM	

Xiomara A. Morel	Sr Financial Management Specialist	LCSFM	
Pedro Olinto	Senior Economist	PRMPR	
Keisgner De Jesus Alfaro	Senior Procurement Specialist	LCSPT	
Pierre-Antoine Picand	Temporary	LCSTR	
Juan D. Quintero	Senior Environmental Engineer	EASER	
Francisco Rodriguez	Procurement Specialist	LCSPT	
Nicolas Serrie	Junior Professional Associate	LCSTR	
Tomas Socias	Senior Procurement Specialist	LCSPT	
Luis Tineo	Senior Operations Officer	GFDRR	
Evelyn Villatoro	Senior Procurement Specialist	EASR1	
Alonso Zarzar Casis	Sr Social Scientist	LCSSO	
Luz A. Zeron	Financial Management Specialist	LCSFM	

(b) Staff Time and Cost

Stage of Project Cycle	Staff Time and Cost (Bank Budget Only)	
	No. of staff weeks	USD Thousands (including travel and consultant costs)
Lending		
FY03		38.26
FY04		55.02
FY05		154.93
FY06		4.24
FY07		0.00
FY08		0.00
Total:		252.45
Supervision/ICR		
FY03		0.00
FY04		0.00
FY05		0.00
FY06		29.44
FY07		51.65
FY08		93.95
Total:		175.04

Annex 5. Beneficiary Survey Results

1. A local consulting firm performed six case studies of roads that had been rehabilitated and maintained by the Project, to assess how nearby communities benefited and make recommendations moving forward. The consulting firm also expanded a baseline survey so that long-term impacts can be evaluated in the future. This section provides a brief summary of the findings of the case studies as interpreted by the ICR staff. A complete discussion of the surveys, interviews, and data collection efforts can be found in related Project documentation.

Methodology of Case Studies

2. The roads selected for the case studies are listed in Table 6-1. They span a variety of conditions and locations to best represent the range of investments of the Project. The two segments selected in the Region of Ica were part of the same road and therefore are treated as one in this discussion.

Table 5-1: Road Segments Selected for Case Studies

Region	Road Segment	Length	Intervention by Project	Status
Ayacucho	Cangallo - Huancapi	22.2 km	Rehabilitated in 2009	Reclassified as national road in July 2011, currently being paved
Cajamarca	Chilete - Contumazá	40 km	Rehabilitated in 2010	Reclassified as national road, currently being paved.
Ica	Segment 1: Chincha - Pte. San Juan	26 km	Rehabilitated in 2010	Remained secondary road
	Segment 2: Pte. San Juan - Pte. Huancho	41 km		
Junín	Palián - Acopalca	23.6 km	Rehabilitated in 2011	Remained secondary road
San Martín	Sacanche - Saposoa	21.3 km	Rehabilitated in 2011	Remained secondary road

3. Each case study consisted of: (i) surveys of at least 20 community members distributed throughout the length of the road; (ii) interviews of around 16 key stakeholders in each area, including leaders in commercial establishments, schools, health centers, local governments, and transport firms, (iii) and a synthesis of socio-economic data. This comprehensive approach allowed the investigation of the multi-dimensional impacts that often accompany projects of this size and scope. One dimension that was of particular interest was the development of local, regional, and national institutions as part of the institutional strengthening component of the Project, which had been one of its main priorities. The case study methodology was selected mainly because it was the most appropriate for better understanding these complex institutional issues.

4. The case studies were performed on roads that had been rehabilitated from 3 to 5 years in the past, to leave enough time for medium-term impacts to materialize, but also to be recent enough for the beneficiary population to remember conditions before the rehabilitation. The interviews were conducted at bus terminals at either end of the road segment being evaluated. Yes or no questions were asked that compared their current situation to before the road was rehabilitated, along different dimensions. They were also asked to provide reasons to support these responses.

5. After the Cangallo—Huancapi and Chilete—Contumaza roads were rehabilitated by the Project, they were reclassified by the Ministry of Transportation from 'regional roads' under the supervision of the Regional Governments to 'national roads' under the supervision of Provias Nacional. This was precipitated by changes in country-wide policies of the sector. In both of these cases the roads started being paved shortly after with 'low cost methods', which was unknown at the time that the case studies were being determined. These investments outside of the Project will have likely contaminated the findings of the case studies by benefiting the local populations in additional ways; however the consulting firm decided to proceed with them because they could still provide useful insights. Beneficiaries were asked to compare current conditions after these road segments had been paved, with conditions before the roads were rehabilitated. This was deemed appropriate because: (i) it would have been difficult to ask people to recall their situation after the road had been rehabilitated but before it was paved, and (ii) it was argued that the earlier rehabilitations were necessary to raise the profile of these roads and create the economic and political conditions that led to them being reclassified and paved. To an extent, the Project had contributed in an indirect way to these additional investments by Provias Nacional.

Findings of Beneficiary Surveys

The results of the surveys are summarized in Table 5-2. The following paragraphs provide a summary discussion of the overarching themes observed in these results.

6. *Quality of Life.* The responses to the three questions asked about quality of life measures were fairly consistent across the case studies. The vast majority indicated that their incomes had increased from the: (i) greater accessibility to nearby urban centers, (ii) reduction of transport costs, (iii) higher travel time reliability during the rainy seasons, (iv) greater frequency of transportation services, and (v) migration to areas surrounding the roads. As expected, responses were noticeably more favorable in the two roads that had been reclassified and paved. The small proportion of the people that had not seen improvements in their incomes cited: (i) increased competition from outside people and firms, (ii) higher prices of transportation services, and (iii)

Table 5-2: Summary of Impact Evaluation Case Studies (IDEL and MVI SLR 2014)

Variables		Ayacucho		Cajamarca		Ica		Junín		San Martín	
		Cangallo	Huancapi	Chilete	Contumazá	Segment 1: Chincha-Pte. San Juan	Segment 2: Pte. San Juan - Pte. Huancho	Palián	Acopalca	Sacanche	Saposoa
Quality of Life	Did incomes improve? Yes	90%	100%	60%	70%	55%	70%	60%	80%	90%	80%
	Did employment increase? Yes	70%	70%	50%	70%	50%	55%	50%	20%	80%	90%
	Did savings increase? Yes	30%	30%	30%	10%	30%	40%	80%	40%	60%	80%
Improvement in Transportation Conditions	Did transport tariffs decrease? Yes	50%	20%	10%	0%	15%	15%	60%	20%	50%	80%
	Average perceived change in transport tariffs	No change	No change	No chang	No change	28% Increas	17.5% Increas	No change		Around 10% Reduction	
	Number of companies providing public transport services	8		3		4		3		3	
	Did public transport improve (Comfort, treatment…)? Yes	100%	100%	50%	60%	75%	90%	70%	90%	100%	100%
	Does the road receive routine maintenance?	No	No	No	No	No	No	No	No	No	No
	Percent of local expenditures on routine maintenance?	s/d		2011 – 1% 2012 – 4% 2013 – 8%		s/d	s/d	2013 – 4%		s/d	s/d
	Was there a reduction in accidents? Yes	20%	10%	90%	90%	90%	70%	60%	90%	60%	10%
	Did perceived security improve? Yes	80%	80%	100%	100%	70%	60%	80%	80%	90%	80%
	Frequency of inbound and	25 to 30 vehicles from		18 to 20 vehicles from		2 vehicles at 14:00		Vehicles from		20 to 25 vehicles 24:0	

Table 5-2: Summary of Impact Evaluation Case Studies (IDEL and MVI SLR 2014)

	Variables	Ayacucho		Cajamarca		Ica		Junín		San Martín	
		Cangallo	Huancapi	Chilete	Contumazá	Segment 1: Chincha-Pte. San Juan	Segment 2: Pte. San Juan - Pte. Huancho	Palián	Acopalca	Sacanche	Saposoa
	outbound public transport service	05:00 to 17:00		05:00 to 17:00				Vilcacoto to Huancayo every 5 mi		hrs	
	Did travel times decrease? Yes	60%	60%	50%	70%	70%	80%	50%	90%	100%	100%
	Average perceived reduction in travel times	20 minutes		30 minutes		none	Around 4 hour	20 minutes		30 minutes	
	Did access to schools and health care centers improve? Yes	100%	100%	10%	60%	90%	80%	100%	100%	100%	100%
Accessibility to Markets and Goods	Did the prices of goods at markets decrease? Yes	0%	20%	40%	0%	15%	10%	0%	0%	30%	20%
	Is there greater access to newer goods? Yes	80%	100%	0%	30%	75%	45%	90%	10%	20%	100%
	Did the quality of goods improve?	90%	100%	20%	20%	85%	50%	100%	30%	80%	80%

the quick deterioration of the roads throughout the rainy season and from increased vehicular traffic. These negative perceptions were more frequent about the roads that had been rehabilitated the earliest.

7. Perceptions on whether employment had increased were generally not as positive, but still favorable. Some of the positive factors included: (i) increased commercial activity along the roads, (ii) greater ease to export products to markets, (iii) greater frequency of transportation services, and (iv) increased vehicular traffic. On the negative side, people perceived that only workers directly employed in transportation services had really benefited from the Project, and that new jobs tended to be either temporary or taken by outside immigrants. Very few negative responses on employment were received in the Sacanche – Saposa case study.

8. With regards to savings, responses in all case studies were decidedly negative. Some of the reasons given were: (i) insufficient incomes that hover around minimum wage, (ii) increased transportation costs, and (iii) persistence of substance agriculture. A small fraction of those interviewed indicated that they had invested in livestock and other productive activities. These could become employers in the future.

9. *Transportation Conditions*. To investigate the channels through which the Project impacted the quality of life of rural Peruvians, follow-up questions were asked about various intermediate outcomes in transportation conditions. Most of the responses were generally positive, with the exception of whether tariffs had decreased (which happened to be a key metric in the results framework of the Project). The consensus was that *transportation tariffs* are determined by many factors outside the influence of the project—resulting from supply-demand interactions that are mainly driven by aggregate trends. The Project could have decreased transportation costs and tariffs would have still increased if the aggregate demand for transportation services increased as well (especially if there are barriers to entry into transportation markets or other factors constraining supply). This, along with the large variation of responses on this issue, suggests that more precise and targeted metrics should be adopted in future projects. Another issue with this metric is that it is only meaningful in the context of what people are paying for other goods and services—in relation to how their purchasing power has changed in the meantime. Interestingly, the case study with the greatest perception that tariffs had decreased (Sacanche-Saposa) also had the most positive responses to the quality of life questions.

10. *Travel times* improved considerably according to the six case studies. The main reasons given for this were that the rehabilitations had: (i) improved the quality of the roads allowing for greater travel speeds, (ii) increased the frequency of transportation services reducing the time spent walking, and (iii) increased the use of autos and other fast modes (like taxis). Improvements in travel times were the largest for the roads that had been paved (Cangallo-Huancapi and Chilete-Contumaza), but were also substantive elsewhere, reducing trip times by as much as 40% in one case. In a couple of the cases this allowed people to visit important urban centers and return within a day, which is critically important for those without the possibility of paying for an overnight stay.

11. Evidence on travel times from the beneficiary surveys was corroborated by the interviews of stakeholders. Health centers reported that improved travel times allowed their ambulances to service a greater area, especially reaching roadway accidents quicker.

Schools reported improved accessibility for students and teachers, and more on-time arrivals. Similar responses were given by local government officials, who now feel they can travel easier throughout their jurisdictions. In addition to improving travel times, almost everyone agreed that travel comfort had improved significantly also.

12. *Safety and Security.* The improvement of travel speeds has led to many benefits in mobility, but in some cases it has caused unintended negative impacts in safety. Overall accident rates improved, but there are areas of concern were safety has worse. As can be seen in Table 6-3, of the beneficiaries that indicated that traffic accidents had increased, the majority named speeding as the main cause. This finding was even more pronounced in the Cangallo – Huancapi road that had was paved using economic methods that did not included a widening of the right-of-way (a common complaint also received for roads that had not been paved). People in this location felt strongly that traffic safety had deteriorated following the investments made by *Provias Nacional*—this is an issue that requires closer attention in the future. Commercial establishments also perceived that accidents increased. On the other hand, travelers overwhelmingly felt that transportation became more secure, with a reduced risk of theft or violence on the road. It is difficult to attribute this solely to the road rehabilitations as most areas of the country have gotten considerably more secure in recent years.

13. *Access to Markets and Goods.* The vast majority of beneficiaries indicated that the prices of everyday goods have increased or at least stayed the same. Similarly as with transport tariffs, the prices of goods do not appear to be a good metric for road investment projects, because they are primarily driven by macro trends such as inflation, aggregate demand, seasonality and input costs other than transportation. It would be difficult to explain most of the changes in this variable with road interventions alone.

14. While the perceived prices of goods have not decreased, their variety has definitely increased. In all of the case studies except Chilete-Contumazá, beneficiaries reported having access to a wider range of goods, of better quality. They indicated that commercial retail stores had become more common, bringing modern products from the big cities and even from abroad. The recent introduction of cell phone and TV services in many areas has compounded this modernization trend. Diversification of markets is particularly noticeable in the food and restaurant sectors. People reported a greater availability of fishes and seafood, and fresher vegetables and fruits. New cuisines from around Peru, and even the world, have also been introduced. Interviews of commercial establishments corroborated these findings. It can be said that improvements in rural roads increase the size of markets, allowing a greater variety of goods, people and ideas to reach previously isolated areas of the country.

Table 5-3: Perception of Safety

Road Segment	Did traffic accidents decrease?	Primary Cause of Accidents			
		Speeding	Animal crossing	Narrow road, dangerous curves,	There are almost no accidents
Cangallo - Huancapi	10% - 20%	55%	0%	30%	15%
Chilete - Contumazá	90%	20%	0%	20%	60%
Segment 1: Chincha-Pte. San Juan	90%	25%	0%	0%	75%
Segment 2: Pte. San Juan - Pte. Huancho	70%	40%	5%	10%	45%
Palián - Acopalca	60% - 90%	40%	0%	10%	50%
Sacanche - Saposoa	10% - 60%	50%	0%	15%	25%

Findings of Stakeholder Interviews

15. *Regional Governments* were the institutions that implemented most of the civil works of the Project. Therefore, the interviews of staff at these offices focused more around institutional and financial topics relating to Project implementation, than on their perception of benefits and impacts. Overall, these decentralized governments were successful in executing the rehabilitation works of the Project, having sufficient institutional capacity to follow Project processes and meet safeguards. However, there exists the perception in some of the Regional Governments that coordination with *Provias Descentralizado* could have been more effective, and that they should have been more fully included in Project decisions. Nonetheless, project execution was generally successful.

16. Table 6-4 shows that there were some deficiencies in performing the routine maintenance activities required by the Project. Routine maintenance had always been central to the Project, to keep roads in a good condition to maximize societal benefits. Otherwise they can deteriorate quickly to pre-rehabilitation states within a couple of seasons, impacting negatively the returns of the Project.

17. Indeed, one of the common threads running through the beneficiary surveys and interviews of stakeholders was that the lack of maintenance had caused the roads to deteriorate, causing to some of the less positive perceptions in Table 6-2. It was often mentioned that potholes had become more frequent, drainage systems had stopped working properly during the rainy seasons, and falling debris had become a greater road hazard. In these surveys and interviews people agreed that the condition of the road was worsening and that additional maintenance activates were needed.

Table 5-4: Status of Routine Maintenance

<table>
<tr><th>Region</th><th>Road Segment</th><th>Year of Rehab.</th><th>Status of Manual Routine Maintenance</th><th>Status of Mechanical Routine Maintenance</th></tr>
<tr><td>Ayacucho</td><td>Cangallo - Huancapi</td><td>2009</td><td colspan="2">None performed because road was reclassified shortly after rehabilitation</td></tr>
<tr><td>Cajamarca</td><td>Chilete - Contumazá</td><td>2010</td><td colspan="2">None performed because road was reclassified shortly after rehabilitation</td></tr>
<tr><td rowspan="2">Ica</td><td>Segment 1: Chincha - Pte. San Juan</td><td>2010</td><td rowspan="2">RG indicated that road received 4 months of maintenance in 2012 and 2013 combined</td><td rowspan="2">RG indicated that road received 2 months of mechanized maintenance in 2013</td></tr>
<tr><td>Segment 2: Pte. San Juan - Pte. Huancho</td><td>2010</td></tr>
<tr><td>Junín</td><td>Palián - Acopalca</td><td>2011</td><td colspan="2">RG indicated that this road segment has received adequate routine maintenance, although it has not maintained the remainder +850km under its jurisdiction. Maintenance budget increases 10% per year, according to RG.</td></tr>
<tr><td rowspan="2">San Martín</td><td rowspan="2">Sacanche - Saposoa</td><td rowspan="2">2011</td><td colspan="2">RG indicated that they only have resources to maintain 147km of their 965km, coming 30% from them and 70% from Provias.</td></tr>
<tr><td>RG indicated that road has received constant emergency maintenance through manual labor.</td><td>RG indicated that road received mechanized maintenance in 2012. However, contractual issues prevented mechanized maintenance in 2013.</td></tr>
</table>

18. The deficiencies in routine maintenance and deterioration of the roads were caused by the following three factors:

(i) *Reclassification of roads***.** The Cangallo - Huancapi and Chilete – Contumazá roads were reclassified as 'national roads' soon after they were rehabilitated. This eliminated any incentive to maintain them as being classified as such implied that they were slated to be paved. For the couple of years after the rehabilitation and before they were eventually paved, the roads deteriorated quickly, impacting negatively the mobility of users. More critically however, 'national roads' are managed by *Provias Nacional* under different priorities that do not emphasize maintenance to the same extent as *Provias Descentralizado* (and the Project). The lack of maintenance after being paved has led them to deteriorate quickly, according to most of the stakeholders and beneficiaries surveyed, accumulating potholes and other deficiencies.

Moreover, there is a sense that the technical specifications of these new pavements are subpar and will not last for long in good condition, especially in the absence of routine maintenance. Low-cost pavements were used by *Provias Nacional* to allow for more roads to be paved given budgetary constraints, however if they are deteriorating rapidly their advantage over simple rehabilitations diminishes. From the limited evidence in these two cases it seems that this is not just occurring, but also accelerating because of the greater frequency of heavy vehicles (buses and trucks).

The case study interviews and surveys also presented strong evidence that the population felt less safe after the roads were paved with these economical methods. They attributed this to: (i) the roads not having been widened (can only accommodate one-way traffic most of the way), (ii) the speeds increasing, (iii) the lack of maintenance leading to obstacles and hazards, and (iv) the lack of comprehensive signage as found in other 'national roads'.

(ii) The *Lack of resources* was cited as one of the main reason why Regional Governments have had difficulties providing adequate maintenance for un-reclassified roads. Regional Governments have highly constrained budgets—especially if they do not count with taxes from the extraction of natural resources ("*Canon Minero*")—and often prioritize other types of social investments. Also, they do not count with as strong of a maintenance culture as was instilled in the Provincial Governments by the parallel Peru Decentralized Rural Transport Project. As can be seen from Table 6-4, even in the cases where the Region Governments provided some maintenance for Project roads, they had many more kilometers under their jurisdiction that had not received any maintenance at all.

(iii) *Institutional weakness.* Several regional governments indicated that they suffer from high turnover in key positions and have low administrative capabilities generally (especially on legal issues), creating bottlenecks in the transfer of resources for routine maintenance. They could do a more effective job with a more stable workforce and increased technical assistance from *Provias Descentralizado*. All of the Regional Governments interviewed indicated that the process for obtaining resources for maintenance was too long and complex.

19. Even in the cases of Palián – Acopalca and Sacanche – Saposoa, where the Regional Government indicated that the road had received adequate maintenance, most of the beneficiaries and stakeholders interviewed stated that they believed the road was not maintained properly, leading it to deteriorate. This suggests that it might be necessary to rethink routine maintenance activities to better meet the needs and expectations of the local population.

20. *Local Governments (Provincial and District)* seemed fully committed to the improvement of the roads because of their history of working in this area with *Provias Descentralizado* and the Provincial Road Institutes (under the Peru Decentralized Rural Transport Project funded by the World Bank). While local governments were not involved directly in the rehabilitation or maintenance of Project roads, they remained acutely aware of the benefits of these types of efforts. Overall, they were very satisfied with the rehabilitations, indicating that these investments had clearly improved the transportation conditions of the area. In some cases they saw an increase in commercial licenses for restaurants, hotels and retail. For them specifically it had enhanced their ability to travel between urban centers, bringing their governments closer to the people and other institutions of their jurisdiction.

21. However, because of their experience working with *Provias Descentralizado* on the routine maintenance of rural roads, Local Governments were particularly critical at how Regional Governments had been managing these activities (especially in Chincha – Pte. Huancho). A couple of Local Governments suggested that Regional Governments should do a better job coordinating with them on the rehabilitation and maintenance works. In a few cases the Local Governments performed emergency maintenance on Project roads because the community needed it. Perhaps a splitting of responsibilities could achieve the best outcomes.

22. *Commercial establishments* were generally positive about their situation, with most of them reporting increased sales since the road rehabilitations. Tourist related establishments such as hotels and restaurants reported greater visits from people from outside the region, but also increased competition from new establishments. Retail establishments echoed the findings of the beneficiary surveys in that now they have access to sell a greater variety of modern goods, such as LCD TVs.

23. *Transportation firms* were generally pleased with the road work because they saw reductions in travel times and maintenance costs, along with increases in the demand for their services. The reduction of maintenance costs resulted from their vehicles having less wear and tear because of the smoother roads. This has led to vehicles lasting longer, incentivizing many of them to buy newer modern models that are safer, more efficient and much more comfortable. Maintenance was a concern for transportation firms in all case studies because it affected their bottom-line. In Chincha – Pte Huancho specifically, transportation firms indicated that the road lasted less than a year in good condition because of the lack of maintenance. It is difficult to verify this claim, or even reach a consensus on what a road in ‘good’ condition looks like, but the evidence is clear and robust that road maintenance is one of the key issues on people’s minds and governments should work diligently to meet their expectations.

24. *Education centers* generally indicated that students can now reach their schools with greater ease, especially for those living in farther away rural areas. Depending on the location, some schools in larger urban centers predominantly educate students in the surrounding city, while others in smaller urban centers have a higher proportion of them commuting from rural areas. In the case of Palián – Acopalca, some of the schools had around 80% of their students come from rural areas many miles away, leading them to be critically dependent on the quality of transportation services along these routes. The case studies presented evidence that these commuter students had benefited greatly from the increased frequency of transportation services, improving their attendance and timeliness, especially during adverse weather. Teachers and administrators also benefited in having better access to the school—a growing fraction of them have even purchased personal vehicles. There was also a perception that paving the roads improved the health of the students by reducing dust and other particulate matter.

25. *Health centers* perceived that the road rehabilitations allowed them to service a wider area. For example, after the Cangallo – Huancapi road was improved, patients could be transported between Cangallo and Huancapi if the capacity was reached at one end or they could be treated better in the other. They report that the travel time between these two urban centers was reduced by 1 hours and 20 minutes, and because in this case the road was paved the journey was less harmful for the patients. Health centers in the other case studies reported similar findings, although those located near the Chilete – Contumazá road indicated that increased health consultations have been likely caused by the expansion in government health programs in the area.

26. *Commissary and police stations* reported that the improved roads allowed them to reach the sites of car accidents and crimes faster. Maintenance costs for their vehicles have also decreased.

Key Findings

27. These are the following conclusions the consultants drew from the case studies:

(i) The rehabilitation of the secondary roads has had positive effects on the local economy by energizing productive activities through the improved access to markets.

(ii) The rehabilitation of the roads has improved the integration of isolated communities, increasing their transitability and accessibility to local resources, especially for tourism.

(iii) The improvement of transitability has not impacted positively transportation tariffs, but it has led to the modernization of vehicle fleets and reduction of accident rates.

(iv) The rehabilitated roads are being affected negatively by the lack of resources dedicated to routine maintenance activities and the difficulty of obtaining additional resources.

Lessons Learned

28. Some of the key lessons learned in developing this study were:

(i) Basing the case study methodology on qualitative methods allowed sampling the opinion of the local population and stakeholders to reveal impacts and results that are usually not visible with predominantly quantitative methods.

(ii) The rehabilitation of rural roads contributes to local development to the extent that these benefits are ensured by continued routine maintenance.

(iii) The rehabilitation of roads requires close coordination with all of the Regional Governments to prioritize investments and select the interventions that are most appropriate.

(iv) The participation of municipal governments in the execution of the road works allows for a greater involvement of local officials and inclusion in development strategies.

(v) The rehabilitation of roads should consider economic pavements as an alternative to the gravel resurfacing that was performed in the Project.

Annex 6. Stakeholder Workshop Report and Results

A workshop was organized in Lima on November 21, 2014, by PVD after project completion. It was designed to provide a platform for participants in the PCD program, including financiers, with detailed information about the implementation and impacts of PCD in each region, and in the country as a whole. Furthermore, some useful lessons learned were extracted and discussed. Key inputs from this workshop were highly useful to complete this ICR. Additionally, the workshop was useful to improve the performance of future projects, such as PATS, which is currently under preparation. PVD and Regional Governments participated in the workshop.

PVD: As the implementing agency, PVD provided detailed information regarding completion of the project, performance indicators, objectives reached and achievements of PCD. Moreover, the independent firm in charge of the impact evaluation presented the corresponding results of their analysis, which was based on four cases of regional road trenches.

*Regional Governments***:** Four regional governments –San Martín, Puno, Ayacucho, and Cusco- shared with the team not only their experience on the preparation and implementation of PCD, but also the impact that this project has had in their respective regions. In addition, Huancavelica and Pasco participated in discussions following the presentations which were focused on the institutional capacities of these regional governments and possibilities of strengthening them.

PVD provided a summary of the main achievements of PCD as follows:

- Decentralization of the road management program.
- Institutional Strengthening of regional governments.
- Culture of maintenance among regional governments: Improvement of the levels of intervention in roads.
- Traffic level has increased.
- Quality of Expenditure: Payments against deliverables.
- Introduction to participatory Road Planning approaches of the regional governments.

PVD also summarized the main lessons learned which can be extracted from the project:

- Management tools should be adopted before the beginning of a project
- Support and assist Regional Governments in the elaboration of Regional Road Programs
- Justify goals, costs and times with Regional Governments
- Ownership of "*Plan Vial Departmental*" by Regional Governments
- Consideration of climate change in planning
- Ways of managing non- compliance of contractors

- Vulnerability of the program towards political events
- Application of both the national and Banks policies
- Improvements in procurement procedures
- Decentralization: This program has contributed to the decentralization process in the country
- New organizational structure of Regional Governments
- Need for monitoring and evaluation

Regional Governments summarized the impact and achievement of PCD:

- Institutional Strengthening: Training of technical staff in the regional governments.
- Strengthening of economy by impact of transport in agro industrial, mining and fishing: Possibility of creating new markets in the regions throughout associations or microenterprises
- Social inclusion of isolated communities due to the improvement of road conditions.
- Culture of Maintenance within the administrations: Creation of LEY 30191[26], which gives continuity to maintenance.
- Positive impact in the implementation of transportation policies, which has contributed to development in the regions (i.e. logistic corridors)
- The improvement of the regional road network has contributed to enhance the economic and social development in the areas of influence of the project. The routine maintenance has provided job opportunities.
- Increased coordination among Regional Governments and *Provias Descentralizado*.
- Coordination between Regional Governments and Ministries for project finance.
- Strengthening of road infrastructure improving communications between urban and rural populations.

Regional Governments described their lessons learned:

- Institutional Strengthening: Training should be oriented to key staff from municipalities.
- Cycles of intervention in periodic maintenance should be shorter especially in areas where precipitations are more frequent. It is not possible to prioritize the execution of periodic maintenance in the short term because the cycles of intervention are 3 years.
- Delays in procurement processes due to the time spent in receiving no objections.
- Procurement processes without minimum limitations in the proposals may cause problems and delays

[26] This law establishes measures to prevent and mitigate adecuate responses to emergency and disasters situations

Annex 7. Summary of Borrower's ICR and/or Comments on Draft ICR

1.1. Información Básica

Nombre del Proyecto	Programa de Caminos Departamentales (PCD)				
Código SNIP	PROG-10-2005-SNIP				
País	Perú				
Prestatario	Gobierno Nacional del Perú				
Unidad Ejecutora	Provías Descentralizado del Ministerio de Transportes y Comunicaciones				
Funcionario Respons	José Rodriguez Cantinet				
Datos de contacto	Jr. Camaná Nº 678 - Pisos del 7 al 12 - Lima 01				
	Central Telefónica: (511) 514-5300. Fax: 426-1736				
Financiadores:					
Banco Interamericano de Desarrollo - BID					
Banco Internacional de Reconstrucción y Fomento - BIRF					
Gobierno Peruano - GOP					
		Información de los Contratos de Préstamo		**BID:**	**BIRF:**
		Contratos de Préstamo		1657/OC-PE	7322-PE
		Fecha de suscripción		02/04/2006	15/03/2006
		Costo original		50,000,000	50,000,000
		Fecha de efectividad		02/04/2006	10/04/2006
		Fecha de primer desembolso		12/04/2007	10/06/2006
		Monto de desembolso acordado año 2014 (US$)		46,978,272	44,531,641
		Monto final desembolsado al cierre (US$.)		45,971,875	41,604,843
		Monto de devolución (US$.)		1,006,398	2,926,797
		* Pari Passu		30.20%	30.20%
		Meses en ejecución			
		Desde aprobación		101	99
		Desde efectividad del contrato		101	98
		Número de extensiones solicitadas		**3**	**3**
			1era. Extensión (meses)	12	24
			2da. Extensión (meses)	7	18
			3ra. Extensión (meses)	5	6
		Extensión acumulativa (meses)		**24**	**48**
		Número de Prórrogas Especiales		3	-
			1era. Prórroga (meses)	9	-
			2da. Prórroga (meses)	3	-
			3era. Prórroga (meses)	6	-
		Prórroga acumulativa (meses)		**18**	**0**
		Fecha de desembolso final (original)		02/04/2011	30/06/2010
		Fecha de desembolso final (vigente)		15/09/2014	30/06/2014
		Modificaciones (Reestructuraciones o Reasignaciones)			
		Reestructuraciones			
			1era. Reestructuración	-	23/07/2010
		Reasignaciones (transferencia entre categorías)			
			1era. Reasiganación	13/06/2012	14/03/2013
			2da. Reasiganación	15/09/2014	04/07/2013

1.2. Objetivos del Programa

El objetivo general del programa fue promover, apoyar y orientar el incremento de la dotación y la mejora de la transitabilidad de la infraestructura de transporte departamental y el desarrollo institucional, en forma descentralizada, planificada, articulada y regulada, con la finalidad de contribuir a la superación de la pobreza y al desarrollo del país.

El objetivo específico fue, proveer una mejor integración y conectividad a la población, un alto nivel de transitabilidad de la Red Vial Secundaria (RVS) y reducir los costos de

transporte y tiempo de viaje a los usuarios a través de inversiones en rehabilitación, mantenimiento y acciones dirigidas a la mejora del sistema de gestión vial y de transporte.

1.3. Descripción del modelo de Intervención

El modelo del Programas de Caminos Departamentales resulta de la adaptación del modelo utilizado para la implementación del Programa de Caminos Rurales, cuyas principales características distintivas son: Planificación de la infraestructura vial de manera participativa, prioridades de inversión de acuerdo a disponibilidad presupuestal, la contratación de microempresas de mantenimiento vial rutinario, conformada por habitantes (socios) de las comunidades del ámbito de influencia del proyecto, pobladores que viven a lo largo de los caminos intervenidos. Para la implementación del Programa de Caminos Departamentales, además de las características mencionadas, se consideró también la contratación de pequeñas firmas dedicadas a la ejecución de proyectos de rehabilitación y mejoramiento de caminos, teniendo en cuenta los aspectos ambientales, de acuerdo a la normatividad nacional e internacional.

En tal sentido, el modelo de gestión vial que se aplicó al PCD, tuvo como objetivo fundamental, lograr el mejoramiento de la transitabilidad de los caminos departamentales en el Perú, a través de la ejecución de proyectos de rehabilitación de dichos caminos y la implementación de un sistema de mantenimiento, aspecto que le daría al programa, la particularidad de ser participativo, descentralizado, tercerizado y generador de empleo en el medio rural, promotor de microempresas de mantenimiento rutinario manual.

Para el logro se sus objetivos, el PCD contempló la ejecución de proyectos y actividades enmarcadas en 7 componentes que a continuación se nombran: (1) Planificación y estudios; (2) Obras Civiles; (3) Mantenimiento rutinario; (4) Fortalecimiento institucional; (5) Administración del programa; (6) Auditoría financiera y operativa; (7) Imprevistos. Se consideró el componente denominado “Imprevistos”, con la finalidad de prevenir recursos para financiar acciones no planeadas, en casos que se habrían presentado contingencia durante la implementación del programa.

1.4 Sostenibilidad

Cuando se implementa este tipo de programas, uno de los aspectos de vital importancia, exigidos tanto por entidades del Estado como por los organismos financieros internacionales, es el aspecto de la sostenibilidad de dicho programa; es decir, cómo se va a lograr la continuidad, la permanencia en el tiempo de lo implementado. Por esta razón, cuando se diseñó el programa se proyectó una determinada cantidad de dispositivos y norma legales que sirvieran de anclas para soportar a los principales componentes (los cuatro primeros). En ese sentido, se consideró como los principales elementos de sostenibilidad del programa, a los siguientes: (1) Arreglos institucionales; (2) Marco normativo para la ejecución y operación del programa; (3) Capacidad de gestión de la organización encargada de la etapa de inversión y operación; (4) Financiamiento de los costos de operación y mantenimiento

1.5. Costo, Plazo y Ejecución Financiera

El Programa se financió con recursos provenientes de operaciones de endeudamiento externo provenientes del Banco Interamericano de Desarrollo (BID) y el Banco Internacional de Reconstrucción y Fomento (BIRF –Banco Mundial) y recursos de contrapartida provenientes del ererio nacional. Inicialmente el programa tuvo un presupuespo de 200 millones de dólares; 50 millones financiados por el BIRF (Contrato de préstamo N° 7322–PE suscrito el 15 de marzo de 2006), US$ 50 millones por el BID (Contrato de préstamo N° 1657/OC-PE suscrito el 02 de abril de 2006) y 100 milones entre PVD y los gobiernos regionales. Posteriormente el presupuesto del programa se modificó, alcanzando la suma de US$ 202,631,810.00, los bancos no modificaron sus aportes (50 millones cada uno) en tanto que los aportes de PVD y de los gobiernos regionales se incrementó a US$ 102,631,810.00 como contrapartida nacional. Adicionalmente, durante el periodo de implemetación del programa se realizaron reestructuraciones, reasignaciones y ampliaciones de plazos, eventos que han generado modoficaciones de las metas, asignación de recursos por categorías y el cronograma de ejecución. En ese sentido, próximos al cierre del PCD, se acordó con los dos bancos, los costos definitivos del programa, que en total asciende a US$ 194.141.723,16 con el aporte de cada cooperante, con la siguiente composición:

Cuadro Nº 1: Estructura de financiamiento, propuesta final del PCD

Fuentes de financiamiento del PCD				
BID	**BIRF**	**RO-PVD**	**GORE**	**Costo Total**
46,978,272.49	44,531,640.67	13,505,226.00	89,126,584.00	194,141,723.16
24.2%	22.9%	7.0%	45.9%	100.0%
47.1%		**52.9%**		**100.0%**

El Programa con el Banco Mundial (BIRF), se efectivizó a partir del 10 de abril del 2007 y su implementación tuvo una duración de 98 meses, los cuales equivalen a 8 años, 3 meses y 17 días, considerando la fecha definitiva de culminación el 30 de junio de 2014. Con el BID, el programa se efectivizó el 02 de abril de 2006, en tanto que su implementación se ejecutó hasta el 15 de septiembre de 2014; por tanto, tuvo una duración de 8 años, cinco meses y 15 días.

1.5.1. Costo por componentes: Cuadro Nº 2: Costo total estimado próximo al cierre del Programa por componentes y fuentes de financiamiento

Componentes y Categorías	Costo Total por Fuentes de Financiamiento (US$)				
	BID	**BIRF**	**RO-PVD**	**GORE**	**Costo Total**
1. Planificación y Estudios	4,216,796.27	4,648,133.27	281,446.00	469,079.00	9,615,454.54
2. Obras Civiles	41,034,624.63	33,327,079.40	2,017,369.00	76,326,311.00	152,705,384.03
3. Mantenimiento Rutinario	156,874.26	2,056,428.00	-	12,331,194.00	14,544,496.26
4. Fortalecimiento Institucional	1,437,146.33	3,886,420.00	3,112,000.00	-	8,435,566.33
5. Administración del Programa	-	-	8,000,000.00	-	8,000,000.00

Componentes y Categorías	Costo Total por Fuentes de Financiamiento (US$)				
6. Auditoría financiera y operativa	132,831.00	113,580.00	94,411.00	-	340,822.00
7. Imprevistos	-	375,000.00	-	-	375,000.00
8. Comisión Inicial	-	125,000.00	-	-	125,000.00
TOTAL	**46,978,272.49**	**44,531,640.67**	**13,505,226.00**	**89,126,584.00**	**194,141,723.16**

1.5.2 Ejecución financiera

Al cierre del programa, se logró un nivel de avance en la ejecución financiera, por un monto total ascendente a US$ 167.110.311,72 dólares, que vendría a ser el costo total efectivo del programa, el cual en términos porcentuales representa el 86.1% respecto al costo total vigente al cierre del Programa. De los recursos del BID total desembolsado se utilizó el 97.9% y en el caso del BIRF la utilización efectiva de los recursos alcanzó el 93.4%.

Cuadro Nº 3: Avance financiero logrado por componentes y fuentes de financiamiento

Componentes y Categorías	Cat BM	Ejecución Financiera Acumulado por Fuentes de Financiamiento al 31/10/2014 (US$)				
		BID	BIRF	RO-PVD	GORE	Total
1. Planificación y Estudios		**4.000.939,98**	**4.648.133,27**	**439.293,53**	**351.318,45**	**9.439.685,23**
1.1 Actualización de PVDP	3a	161.931,06	118.246,93	26.934,47	-	**307.112,46**
1.2 Ejecución de estudios de preinversión	3a	727.082,37	899.293,84	31.466,21	66.922,60	**1.724.765,02**
1.3 Ejecución de estudios definitivos	3a	3.111.926,55	3.630.592,50	380.892,85	284.395,86	**7.407.807,76**
2. Obras Civiles		**40.692.729,94**	**32.583.568,88**	**1.829.235,75**	**55.185.188,78**	**130.290.723,35**
2.1 Rehabilitación de 2200 km de RVD	3b	33.953.325,98	20.220.181,11	1.684.397,57	39.706.640,16	**95.564.544,82**
2.2 Mantenimiento periódico		4.427.425,42	9.691.612,06	-	11.985.789,77	**26.104.827,25**
a) Red rehabilitada (2200 km) (Repos. afirmado)	3b	-	-	-	-	**-**
b) Red transferida (Repos. afirmado)	3b	4.427.425,42	9.691.612,06	-	11.985.789,77	**26.104.827,25**
2.3 Supervisión de obras de rehabilitación	3b	2.007.994,31	1.969.784,42	144.838,18	2.698.335,63	**6.820.952,54**
2.4 Supervisión de mantenimiento periódico	3b	303.984,23	701.991,29	-	794.423,22	**1.800.398,74**
3. Mantenimiento Rutinario		**128.127,35**	**2.056.426,86**	**-**	**11.669.383,16**	**13.853.937,37**
a) Red rehabilitada (2200 km)	3b	22.480,35	103.958,79	-	86.924,72	**213.363,86**
b) Red transferida	3b	-	-	-	9.641.127,75	**9.641.127,75**
c) Red transferida (Perfilado)	3b	105.647,00	1.952.468,07	-	1.941.330,69	**3.999.445,76**
d) Supervisión (monitores)	3b	-	-	-	-	**-**
4. Fortalecimiento Institucional		**1.038.979,54**	**2.062.156,99**	**1.909.585,61**	**-**	**5.010.722,14**
4.1 Asistencia técnica y capacitación	3c	964.699,37	1.940.790,69	1.326.934,01	-	**4.232.424,07**
4.2 Adquisición de bienes y servicios	1	54.310,26	54.371,86	406.773,43	-	**515.455,55**
4.3 Seguimiento, monitoreo y evaluación	2	19.969,91	66.994,44	175.878,17	-	**262.842,52**
5. Administración del Programa		**-**	**-**	**8.016.516,33**	**-**	**8.016.516,33**
Administración del Programa - PCD		-	-	8.016.516,33	-	**8.016.516,33**
6. Auditoría financiera y operativa		**111.097,95**	**129.557,26**	**133.072,09**	**-**	**373.727,30**
Auditoría Financiera y Operativa (Externa)	2	111.097,95	129.557,26	133.072,09	-	**373.727,30**
7. Imprevistos		**-**	**-**	**-**	**-**	**-**
Imprevistos	5,6	-	-	-	-	**-**
8. Comisión Inicial		**-**	**125.000,00**	**-**	**-**	**125.000,00**
Fondo Rotatorio		-	125.000,00	-	-	**125.000,00**
TOTAL		**45.971.874,76**	**41.604.843,26**	**12.327.703,30**	**67.205.890,40**	**167.110.311,72**
Composición de Ejecución por Fuente (%)		**27,5%**	**24,9%**	**7,4%**	**40,2%**	**100,0%**

Cuadro Nº 4: Cumplimiento de la utilización de recursos financieros por componentes

Componentes y Categorías	Cat BM	Costo Total Vigente (US$:)	Ejecución Financiera (US$:)	Cumplimiento (%)
1. Planificación y Estudios		9,615,454.54	9,439,685.23	98.2%
2. Obras Civiles		152,705,384.03	130,290,723.35	85.3%
3. Mantenimiento Rutinario		14,544,496.26	13,853,937.37	95.3%
4. Fortalecimiento Institucional		8,435,566.33	5,010,722.14	59.4%
5. Administración del Programa		8,000,000.00	8,016,516.33	100.2%
6. Auditoría financiera y operativa		340,822.00	373,727.30	109.7%
7. Imprevistos		375,000.00	-	0.0%
8. Comisión Inicial		125,000.00	125,000.00	100.0%
TOTAL		**194,141,723.16**	**167,110,311.72**	**86.1%**

1.6 Metas y logros por componentes

Durante el periodo de implemantación del programa, se han obtenido logros importantes, que hicieron de la gestión del programa, un proceso efectivo y eficiente, aún cuando la implementción no alcanzó al cien por ciento de las regiones. El resumen de los resultados se describe a cotinuación.

1.6.1 Planificación Vial Participativa y Estudios

De acuerdo al diagnóstico elaborado en el contexto de la preparación del PCD, los gobiernos regionales con capacidad de gestión vial aceptable mostraban como principal fortaleza sus capacidad instalada –instalaciones y equipos– para atender las vías, en tanto que sus principales debilidades estaban en la gestión ambiental vinculadas a los proyectos viales, en sus capacidades para el planeamiento vial, la organización institucional y en la ejecución de la inversión vial. De igual modo, los gobiernos regionales con capacidad de gestión vial baja mostraban debilidades generalizadas, siendo las más relevantes las referidas a sus capacidades de gestión ambiental y de organización institucional.

Es importante destacar que, en relación a la elaboración y actualización de los Planes Viales Departamentales Participativos, se había planeado atender a 20 regiones en un principio, el cual luego se incrementó como meta del programa a un total de 24 planes para igual número de regiones; meta que fue cumplida al 100% al finalizar la implementación del programa. En cuanto a estudios, se ha logrado de manera satisfactoria, elaborar los estudios tanto de preinversión como los definitivos o expedientes técnicos, que son los insumos básicos para que un proyecto evolucione a la etapa de ejecución física de las obras. En ese sentido se elaboró estudios de preinversión por el equivalente a 2.014,00 kilómetros de caminos departamentales, el cual para el BIRF significa un avance final del 99% respecto a la meta acorada, respecto a la meta acordada con el BID, el avance es del 100%. En lo referente a estudios definitivos, se logró elaborar dichos estudios por el equivalente a 1.726,00 Km de caminos

departamentales a ser rehabilitados, el cual, para el BIRF representa un avance final del 97%, en tanto que para el BID se ha logrado el 100" de la meta acordada.

1.6.2 Intervención en Caminos Departamentales – Obras Civiles

Al concluir la implementación del PCD, en la red de caminos departamentales, se logró la ejecución de los siguientes productos:

- ❖ Proyectos de rehabilitación de caminos departamentales por una longitud total de 1.562,45 Km.
- ❖ Mantenimiento periódico de 3,540.62 Km.
- ❖ Mantenimiento Rutinario de la red vial rehabilitada, por un total de 270,5 Km.
- ❖ Mantenimiento rutinario de la red vial transferida, por un total de 3.109,74 Km.
- ❖ Mantenimiento Rutinario con perfilado de la red trasferida por Provias Rural por un total de 1574.35 Km.

Una de las principales características por la cual se identifica el PCD, es el que los proyectos y actividades del programa, se hayan ejecutado de manera descentralizada, en todos los niveles y acciones de intervención, la elaboración de los estudios de preinversión y de los estudios definitivos, la elaboración de los expedientes de mantenimiento, los proceso de convocatoria con aplicación de las normas de los Bancos (BID y BIRF), las contrataciones, la administración de los contratos tanto de las obras como de las supervisiones, entre otras labores relacionadas al programa, han sido ejecutadas por los propios gobiernos regionales. La labor de Provias Descentrallizado estuvo centrado en las acciones de fortalecimiento de capacidades de los gobiernos regionales que participan en el programa, a través de un acompañamiento permanente con un plan de capacitaciones, en el cual se consideró diversos cursos, talleres, pasantías, asesorías directas y online, asistencia técnica en temas específicos sean de tipo técnico-ingenieril así como de tipo administrativo y de gestión.

1.6.3. Mantenimiento Rutinario

En el componente Mantenimiento Rutinario, se ha logrado intervenir con la modalidad de mecanizado o perfilado en 1.574,35 Km. de caminos de la red vial transferida; entre mantenimiento rutinario mecanizado y manual de la red vial transferida, se ha logrado 3.109,74 Km; en tanto que, en la red vial rehabilitada se ha intervenido en un total de 270,5 Km. de caminos departamentales. Las cifras en términos de metas y ejecución logradas se puede visualizar en el Cuadro Nº 5 (metas planeadas y logradas) del numeral 1.7, en esta sección del documento.

1.6.3. Fortalecimiento y Desarrollo de Capacidades

Una de las limitaciones y deficiencias encontradas en los gobiernos regionales fue la infraestructura organizacional, que no les permitía planificar, manejar e implementar intervenciones en infraestructura vial de una manera eficiente y sostenible; ello debido a la existencia de diferentes órganos que realizaban la gestión vial, como la coexistencia de

las Gerencias Regionales de Infraestructura y las Direcciones Regionales de Transportes y Comunicaciones.

Por lo tanto, a través de este componente se propuso financiar específicamente lo siguiente: (i) La racionalización del marco institucional para la gestión de los caminos a nivel regional, promoviendo la creación de una unidad única encargada de la gestión vial regional (de la reestructuración de la GRI y de la DRTyC) con dependencia directa del gobierno regional; ii) La transición de la rehabilitación y mantenimiento de caminos realizados por administración directa a ejecución tercerizada y microempresas para actividades de mantenimiento rutinario manual (actividades elegibles incluirían preparación de contratos, capacitación en contrataciones y supervisión, definición de una estrategia para eliminar progresivamente la ejecución por la modalidad de administración directa y promoción de la constitución de microempresas); (iii) Capacitación en el manejo de las salvaguardas, que ayudaría a fortalecer capacidades del gobierno regional para el manejo de salvaguardas (contrataciones y adquisiciones, gestión financiera, gestión ambiental y gestión social); (iv) Supervisión, auditoría y evaluación, que ayudaría a implementar en el nivel central una capacidad de supervisar y evaluar la puesta en práctica del programa (ingresos, egresos, resultados e impactos); (v) Análisis del suministro de servicios de transporte en los caminos departamentales y aclaración de la asignación de responsabilidades sobre la regulación de servicios de transporte y seguridad vial; (vi) Políticas de financiamiento para el mantenimiento sostenible de los caminos, que ayudaría a evaluar la situación financiera de las regiones y a definir una estrategia para asegurar y, de ser necesario, incrementar el financiamiento de los gastos relacionados a infraestructura vial en los gobiernos regionales; (vii) Programación de las acciones de reestructuración de PVD, para moverse hacia una agencia reguladora pequeña, ágil y bien entrenada, que defina las políticas nacionales en lo que respecta a la gestión de los caminos departamentales (por ejemplo, estándares técnicos), monitoree el trabajo de los gobiernos regionales en la gestión de sus caminos departamentales y les provea asistencia técnica cuando sea necesario; y, (viii) En caso de necesidad, algunos recursos podrían ser utilizados para financiar los estudios estratégicos relacionados con la gestión de caminos departamentales en el contexto de las políticas y programas nacionales de transporte, complementando otros recursos existentes que se centran en la formulación de las políticas del transporte.

En resumen, los gastos elegibles para este componente incluían, por ejemplo, la asistencia técnica proporcionada por consultores, estudios y evaluaciones realizadas por consultores, costos de capacitación, costos de difusión, costos administrativos y la organización por parte de PROVÍAS DESCENTRALIZADO (ex Provías Departamental) de eventos de coordinación para facilitar el intercambio de experiencias entre las diversas regiones, así como supervisar los resultados.

Objetivo general del componente:

El objetivo general que se planeó con este componente al implementar el nuevo modelo de gestión vial fue: Generar y reforzar las capacidades institucionales en los gobiernos regionales de modo que, se superen las debilidades e insuficiencias actuales para

desarrollar un nuevo modelo de gestión vial basado en un sistema de planificación estratégica, conducido por una unidad especializada y ejecutado principalmente bajo modalidades de contratación o tercerización de obras y servicios.

1.7. Evaluación de Resultados del Programa

En esta sección se analiza los indicadores de evaluación de desempeño del programa, la evaluación ex post, la evaluación de impactos y la evaluación de desempeño de los organismos prestatarios (los Bancos).

1.7.1. Evaluación de indicadores de Desempeño del Programa

Son indicadores que muestran los niveles de logro de los productos que haya tenido, comparado con las metas planeadas, que a su vez se fueron modificando de acuerdo a las reestructuraciones concertadas con los bancos.

Cuadro Nº 5: Metas de indicadores de desempeño con la implementación del PCD

COMPONENTE	Metas Originales (Suscripción Convenios)	Metas Reestructuradas 2010 Vigentes para el BIRF	Metas Reestructuradas 2012 Vigentes para el BID	Metas Logradas al Cierre (30/06/14)	Avance Logrado Respecto a Metas 2010 - BIRF (%)	Avance Logrado Respecto a Metas - 2012 BID (%)
1. Planificación y Estudios						
1.1 Actualización de PVDP	20	24	24	24	100%	100%
1.2 Ejecución de estudios de preinversión	2,200	2,029	2,014	2,014.00	99%	100%
1.3 Ejecución de estudios definitivos	2,200	1,786	1,726	1,726.00	97%	100%
2. Obras Civiles						
2.1 Rehabilitación de 2.200 km de RVD **(1)**	2,200	1,781	1,670	1,562.45	88%	94%
2.2 Mantenimiento periódico						
a) Red rehabilitada (2.200 km) (repos. afirmado)	2,200					
b) Red transferida PVR (2.706 km) (repos. afirmado)	2,706	2,202	3,467	3,540.62	161%	102%
3. Mantenimiento Rutinario						
a) MR de Red rehabilitada (2.200 km)	2,200	1,748	443	270.75	15%	61%
b) MR manual Red transferida por PVR (2.706 km)	2,706	2,471	3,371	3,109.74	126%	92%
c) MR Perfilado de Red transferida por PVR (2.706 km)	2,706	2,202	1,761	1,574.35	72%	89%

(1)/ Los avances logrados en obras de rehabilitación corresponden a valorizaciones registradas al 30/06/2014, considera 35 Obras concluidas por una longitud de 1,382,92 Km. y avances de ejecución por 179,53 Km. de 6 obras, haciendo un total de 1,562,45 Km. Sin embargo, procesando las valorizaciones al 30 de Septiembre, se ha logrado concluir 1,447,76 Km de rehabilitación en 37 tramos, y un avance de ejecución de 4 tramos por 133.19 Km, con el cual se alcanzó un avance físico real de 1580.94 Km.

1.7.2. Evaluación Económica del PCD

Los resultados de la evaluación económica ex post muestran que, a pesar del incremento del costo total de la inversión, y el incremento de los costos unitarios de inversión que pasaron de US 50,759 US $ /km previstos en el año de formulación (2005) a US $ 72,166 por kilómetro a la finalización del PCD en el 2014, se demuestra que las inversiones del PCD fueron rentables, aunque en menor magnitud que lo previsto en la evaluación ex ante. Así, en la evaluación ex post, se reporta un Valor Actual Neto (VAN) de 10.23 millones de dólares americanos inferior a 63.4 millones de dólares americanos estimados al inicio de del PCD; La Tasa Interna de Retorno (TIR) de 16.13% ex post, es superior a la tasa de descuentos del 14%, pero inferior a la TIR reportada en la evaluación ex ante estimado en 26%.

Cuadro Nº 6: Indicadores de evaluación económica del PCD ex ante y ex post.

Rubros	Ex ante	Ex-post
Inversiones (M US$)	**113.3**	**140.89**
Inversiones por km (US$/km)	50,759.00	72,166.57
TIR (%)	26%	16.13%
VAN en miles de US $ (al 14%)	63.4	10.23

1.7.3. Evaluación de Impacto del PCD

Durante la etapa del diseño de formulación del programa se estimó eleborar una evaluación de medio término, denominada también evaluación intermedia, con la finalidad de ir evaluando la evolución de los indicadores de impacto; para tal efecto, antes delinicio del programa se elaboró la Línea de Base respectiva; sin embargo, la actividad de evaluación no fue posible ejecutarla debido a que la Línea de Base mencionada se debilitó casi desde inicios del proceso de implementación, por diversas razones de origen exógenas al programa.

En ese sentido, cuando en el año 2010, se planteó la posibilidad de realizar la evaluación de medio término del PCD, un análisis previo de los caminos que formaron parte de la muestra para el grupo de intervención cuando se construyó la línea de base, se encontró que varios de ello ya no permanecían en el programa porque el gobierno regional había decidido que esas vías sean intervenidas a nivel de asfaltado o de mejoramiento, los cuales no estaban contempladas en el programa; por ello es que, la muestra de los caminos que continuaban en el programa, resultó con muy baja representatividad como para suministrar resultados robustos a través de la inferencia estadística.

En consecuencia, a modo de cubrir parcislmente la necesidad de información acerca del proceso de implemantación del programa, se contrató los servicios de consultoría del consorcio IDEL –Monitoreo, Vigilancia e Impacto Social SRL, para que en lugar de elaborar la evaluación de medio término del PCD, se desarrolle el tema denominado, “Estudios de Casos del Programa de Caminos Departamentales”, al mismo tiempo esta consultoría se encargó de elaborar otro producto denominado “Elaboración de la Línea de Base Complementaria del PCD”.

En cuanto al Estudio de casos, que se tratará con mayor detalle en la sección IV de este documento, nos brinda información aproximada sobre algunos indicadores de impacto económicos y sociales, los cuales se enmarcan en el plano de la percepción de los usuarios y/o de algunos involucrados, de ninguna manera reemplaza a una evaluación de impactos, cyos indicadores son trabajados en base a hipótesis de trabajo, que son contrastados con información de campo mediante un test de hipótesis; los cuales le dan el carácter de riguroso y científico; en cambio, el estudio de casos realizado, llegó de manera limitada al ámbito de 6 caminos departamentales intervenidos por el programa y el procesamiento de la información de campo quedó solo a nivel de estadísticas descriptivas; los cuales, de tadas maneras nos ayuda a tener una idea acerca de la satisfacción de los usuarios de las vía estudiadas.

Para la realización de los estudios de casos, se ha considerado seis (06) caminos departamentales rehabilitados por el programa (PCD) distribuidos en cinco regiones, los cuales son: (i) Ayacucho, con el camino Cangallo – Huancapi; (ii) Cajamarca, con el camino Chilete – Contumazá; (iii) Ica, con dos (02) caminos: Chincha –Puente San Juan, y Puente San Juan – Huanchos; (iv) Junín, con el camino Palián–Acopalca–Abra Huaytapallana, y (v) San Martín, con el camino Sacanche –Saposoa

1.7.4. Evaluación de Desempeño de los Organismos Prestatarios

Como en los programas anteriores implementados por Provias descentralizado, la performance de los Bancos financiadores del programa ha sido muy buena y destacable, por el constante asesoramiento brindado al equipo de gestión de Provias Descentralizado. La política de haber tenido las puertas abiertas por parte de los bancos fue un factor fundamental para sacar adelante los proyectos viales.

Cabe destacar que el principal mecanismo formal utilizado por los dos bancos financistas (BID y BIRF) durante la implementación del PCD, fueron las misiones de supervisión conjunta realizadas con una frecuencia casi bimensual, mediante reuniones de trabajo en la sede central de Provias Descentralizado, no solamente revisando y evaluando los avances, sino también recomendando correctivos y planteando propuestas de solución a problemas reportados en determinados ámbitos del proceso de implementación. Estas misiones concluían con visitas a una Oficina de Coordinación Zonal que incluían trabajo de campo en el que se inspeccionaba de modo presencial, una o más obras viales para verificar la calidad de ejecución de las mismas y el cumplimiento de los procedimientos y normas técnicas.

Annex 8. Comments of Cofinanciers and Other Partners/Stakeholders

Comments on Draft ICR by the Inter-American Development Bank, Project Co-Financer

1. La evaluación realizada por el Banco Inter-Americano de Desarrollo (BID) considera la ejecución del Programa de Caminos Departamentales (PCD) como satisfactoria, dado que logró alcanzar sus objetivos de desarrollo.

Evaluación del proyecto.

2. En términos generales, la implementación del PCD se considera satisfactoria, considerando la complejidad de la ejecución de un proyecto que fue totalmente descentralizado. Si bien para efectos del Programa, la unidad ejecutora fue Provias Descentralizado (PVD), perteneciente al Ministerio de Transporte y Comunicaciones, todas las contrataciones previstas en el programa (estudios, obras, supervisiones, mantenimientos) fueron realizadas directamente por los Gobiernos Regionales (GR) utilizando las políticas de adquisiciones del Banco. Los retrasos en la ejecución del programa pueden ser atribuibles a varios elementos, entre ellos: aspectos institucionales de los GR, cambio de contexto económico del país, alta rotación de los GR, contrataciones con procedimientos no conocidos por los GR, entre otros.

Desempeño del ejecutor.

3. El Banco considera que la agencia ejecutora ha efectuado una labor satisfactoria durante la implementación del proyecto. Durante la ejecución del proyecto mostró ser muy proactivo para poder superar muchos de los problemas que se presentaban durante la ejecución, adoptar medidas para reducir la probabilidad de ocurrencia de determinados riesgos. Esta labor fue aún más compleja debido a que muchos de las dificultades que se presentaban durante la ejecución, no se encontraban bajo su control. Un ejemplo de ello, es que con el cambio de contexto económico, muchos de los GR dejaron de tener interés en el programa, considerando que buscaban orientar sus inversiones a vías asfaltadas y no a rehabilitarlas tal como las ofrecía el programa. En este contexto, la labor de PVD consistió en una gran difusión y conversaciones con los GR para explicar las bondades de rehabilitar sus caminos y llevarlos a un nivel transitable, con beneficios y menores costos de inversión que le permitirían mejorar otros caminos de su red. Las dificultades en las contrataciones que realizaban los GR también llevaban a que PVD tenga que realizar una permanente asistencia técnica personalizada a los GR de manera que las adquisiciones se lleven a cabo considerando todo lo establecido en las políticas de adquisiciones de los Bancos.

Desempeño del Banco Mundial.

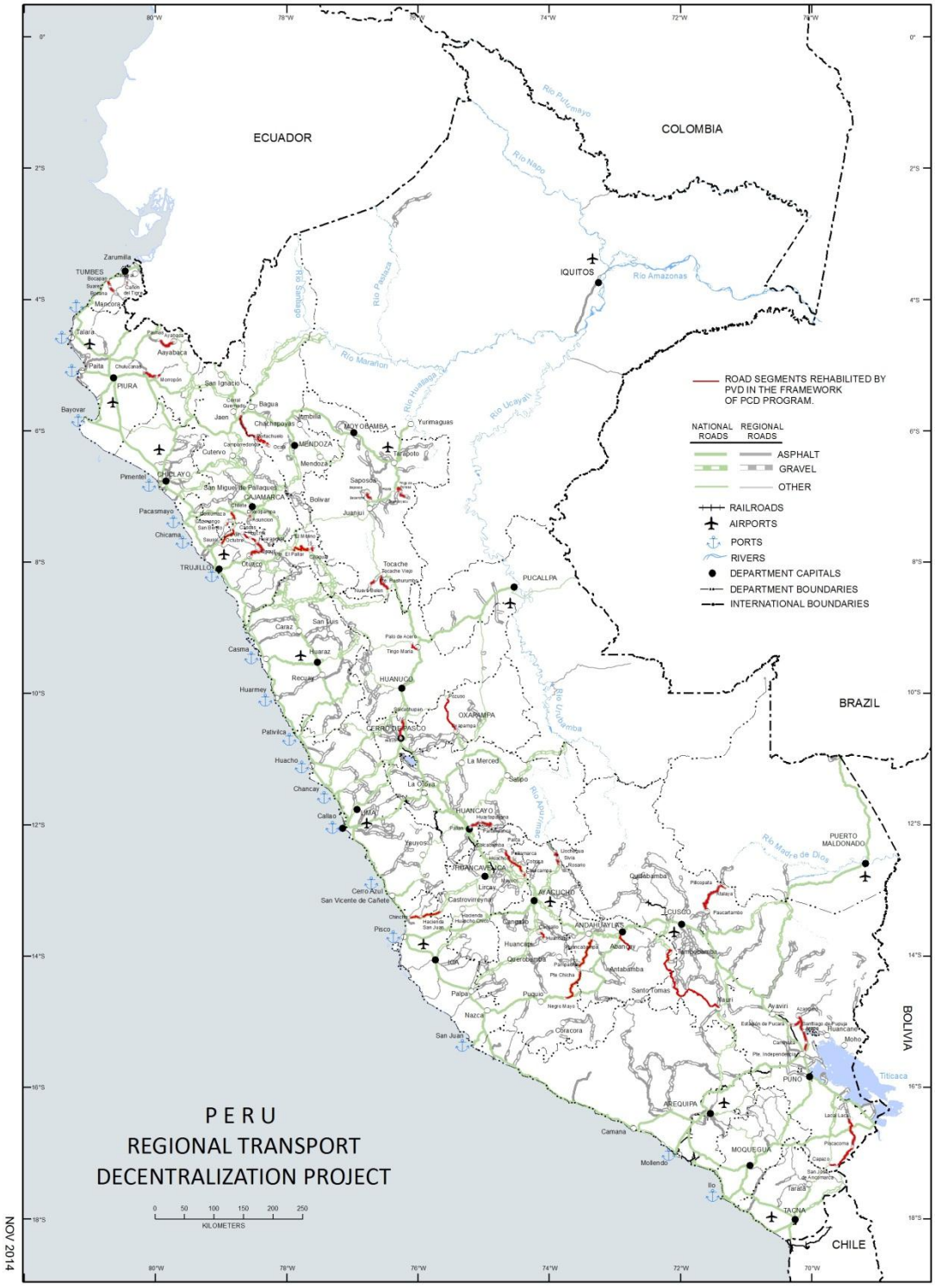
4. En opinión del Banco Interamericano de Desarrollo (BID), el trabajo conjunto entre el Banco Mundial y del BID ha sido positivo. El trabajo conjunto durante el diseño del proyecto permitió incorporar en el Programa enfoques propuestos por ambos bancos, enriqueciendo el diseño de las operaciones. El trabajo conjunto durante la implementación del Programa ha generado valor agregado para un adecuado monitoreo y supervisión. Ambos Bancos han identificado las ventajas de cada uno en determinados

aspectos del monitoreo, y en diversas etapas del proyecto para poder realizar un monitoreo integral. Asimismo, el diálogo técnico entre ambos Bancos que incluye el compartir información, identificar debilidades u oportunidades de mejora del programa, ha sido muy fluido, y ha permitido proponer al ejecutor mejoras en la implementación del programa. Un ejemplo de dicha coordinación es que ambos Bancos acordaron realizar un seguimiento detallado al programa, estableciendo metas (o hitos) trimestrales de cumplimiento, de manera que cualquier desvío respecto a las metas acordadas, permita identificar problemas y tomar acciones correctivas.

Annex 9. List of Supporting Documents

1. Informe de Progreso de PCD Enero- Junio 2014- Provias Descentralizado
2. Implementation Status Reports (from 1 to 17) - World Bank
3. Aide Memoires of Missions from 2007 to 2014- World Bank/Inter-American Development Bank/ Provias Descentralizado
4. Legal Agreement of the Loan (including First and Second Amendments)
5. Project Appraisal Document: P078813- Peru Regional Transport Decentralization Project- World Bank.
6. Implementation Completion Reports: (a) P095570- Decentralized Rural Transport Project and (b) P088153- National Highway Asset Management
7. Consulting Report: Línea de Base Complementaria y Estudios de Casos del Programa de Caminos Departamentales- Principales Resultados del Estudio de Casos- IDEL Consulting
8. Informe de Evaluación de Impacto- Provias Descentralizado
9. Presentación Logros y Lecciones aprendidas del PCD Taller de Cierre- Provias Descentralizado
10. Presentations Lessons Learned from different regions (Cusco, Puno, San Martin, Ayacucho)
11. Ayuda Memoria: Actividades de Mantenimiento de las Vías Vecinales y de Vías Departamentales- Provias Descentralizado.
12. Mantenimiento de Infraestructura Vial de Vías Departamentales a Nivel Nacional- Provias Descentralizado.
13. Decreto Supremo Nº327-2013-EF: Autorizan Transferencias de Partidas a favor de diversos Gobiernos Regionales y Gobiernos Locales en el Presupuesto del Sector Público para el Año Fiscal 2013 para financiar actividades de mantenimiento periódico de infraestructura vial departamental y vecinal

MAP


ECUADOR
COLOMBIA
BRAZIL
BOLIVIA
CHILE
IQUITOS
PUCALLPA
PUERTO MALDONADO
ROAD SEGMENTS REHABILITED BY PVD IN THE FRAMEWORK OF PCD PROGRAM.
NATIONAL ROADS
REGIONAL ROADS
ASPHALT
GRAVEL
OTHER
RAILROADS
AIRPORTS
PORTS
RIVERS
DEPARTMENT CAPITALS
DEPARTMENT BOUNDARIES
INTERNATIONAL BOUNDARIES
P E R U
REGIONAL TRANSPORT
DECENTRALIZATION PROJECT
0 50 100 150 200 250
KILOMETERS
NOV 2014