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Report No. 22474

PROJECT PERFORMANCE ASSESSMENT REPORT

PERU

**RURAL ROADS REHABILITATION AND MAINTENANCE PROJECT
(LOAN 3962-PE)**

July 9, 2001

*Sector and Thematic Evaluation Group
Operations Evaluation Department*

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Currency Equivalents (annual averages)

Currency Unit =	Sol Nuevo
(October 1995)	
B1.0 =	US\$0.44
US\$ 1.0 =	S/.2.26
(June 2001)	
1 Sol Nuevo =	US\$ 0.284

Abbreviations and Acronyms

CAPECO	Peruvian Chamber of Construction (<i>Cámara Peruana de la Construcción</i>)
DGC	General Directorate of Roads (<i>Dirección General de Caminos</i>)
FFONCODES	Social Development and Compensation Fund (<i>Fondo Nacional de Compensación y Desarrollo Social</i>)
FCM	Fondo Compensación Municipal
IDB	Inter-American Development Bank
INADE	National Institute of Development (<i>Instituto Nacional de Desarrollo</i>)
ICR	Implementation Completion Report
IPRSP	Interim Poverty Reduction Strategy Paper
NCB	National competitive bidding
MEF	Ministry of Economy and Finance
MTC	Ministry of Transport, Communications, Housing, and Construction
NGO	Nongovernmental organization
NMT	Non-motorized transport
OECF	Overseas Economic Cooperation Fund – Japan
OED	Operations Evaluation Department
PPAR	Project Performance Assessment Report
PCR	Project Completion Report
PERT-PCR	Project management unit (<i>Proyecto Especial de Rehabilitación de Transporte-Programa de Caminos Rurales</i>)
PERT	Project Coordination Unit for Ln. 3717-PE (Transport Rehabilitation Project)
SINMAC	National Highway Maintenance System (<i>Sistema Nacional de Mantenimiento de Carreteras</i>)
SAR	Staff Appraisal Report
TA	Technical assistance

Fiscal Year

Government: January 1 – December 31

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The World Bank
Washington, D.C. 20433
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Office of the Director-General
Operations Evaluation

July 9, 2001

MEMORANDUM TO THE EXECUTIVE DIRECTORS AND THE PRESIDENT

**SUBJECT: Project Performance Assessment Report on Peru
Rural Roads Rehabilitation and Maintenance Project (Loan 3962-PE)**

Attached is the Performance Assessment Report prepared by the Operations Evaluation Department on the above project, which was approved in FY95 and closed on December 30, 2000, one year behind schedule. The loan was for \$90 million and was fully disbursed. The IDB financed a parallel project also for US\$90.0 million which also was fully disbursed. The projects had a joint project management unit and joint supervision missions.

The purpose of the project was to provide a well-integrated and reliable rural road system through rehabilitation and maintenance of rural roads and key links connecting to the primary road system. The goal of the government's strategy was to help alleviate rural poverty and raise living standards of rural communities through increased access to basic social services and income-generating activities. The specific objectives were to: (a) reduce transport costs and raise the reliability of vehicular access to expand markets for agriculture and non-farm products; (b) integrate zones of poor access with regional economic centers; (c) improve transport conditions in rural villages; (d) generate employment through the rehabilitation and maintenance of rural roads to mitigate rural poverty; and (e) build up institutional capacity at local government level and develop small and medium enterprises to manage and carry out, on a sustainable basis, the maintenance and improvement of rural roads. The project, encompassed many concepts, such as poverty focus, poverty reduction strategy, community participation, empowerment, and decentralization, that have since become standard in the Bank's work.

The key objectives of the project were either achieved or exceeded. The civil works were carried out as planned, on schedule, and exceeded their targets. The impact study indicated that even during the very short time in which the rural roads program has been active, all the transport outcomes indicate moderate to high levels of impact, with most outcomes registering high impacts. Travel times have decreased markedly and transport tariffs have declined 15 percent for freight on buses and 8.6 percent for trucks on the project roads. This compares very favorably with the 1.2 and 0.7 percent decreases, respectively, along "control roads." The surveys show that there has been a substantial increase in traffic volumes—22 to 196 percent depending on vehicle class—and access to marketplaces and services has improved. The project benefited 104 of the 120 provinces in the project area. It aimed to benefit 200 rural villages but surpassed this by

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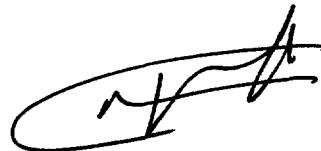
benefiting 390 villages and 2.8 million people. It created 30,000 unskilled jobs and, importantly, spawned 411 legally constituted small firms with more than 4,500 workers with entrepreneurial attitudes. Recent studies also give positive preliminary indications with regard to poverty reduction, although it is too early to draw definite conclusions.

Project management was effective. It pioneered many innovative products and processes in procuring the civil works in a manner that supported private sector development. It engaged the community in the project from concept through implementation that created ownership and pursued institutional development that supported not only the poverty reduction objective but also the sustainability of the civil works and the viability of the private sector. There remains an important unfinished government agenda on (road sector) decentralization, both fiscal and administrative, that could jeopardize long-term project sustainability if not adequately addressed, possibly with continued Bank assistance.

The PAR rates the outcome of the project as highly satisfactory, sustainability as likely, and institutional development impact as substantial, as does the ICR. Bank and borrower performances are both rated as highly satisfactory, as in the ICR.

There are several lessons in how this innovative project achieved tangible and desirable results. Undoubtedly, the project concept and its implementation, developed together and owned by all, were key to the project's success. But, the project also illustrates a new paradigm for transport planning and (economic) development. It recognizes the fluidity of values, the dependency between ends and means, and the centrality of putting experiences and perceptions into words—participation—for demand-driven change. Under this model the Bank should view the project as an experiment; engage in continuous dialogue with the borrower; interact with the borrower and beneficiaries in terms that they understand and in a context they set; acknowledge the complexity of the problem and keep the interpretation of objectives flexible; focus more on analyzing problems, than on achieving results; explore failures and successes together with the borrower; and finally, learn to use emotional communication for facilitating change. This requires that project management show leadership and be a spokesman for the project, be capable for conducting sectoral and intersectoral negotiations, and establish good relations with the spokesmen for the stakeholders. Project management must also be backed up by an excellent project information and management system.

Attachment

A handwritten signature in black ink, consisting of a large, stylized 'A' or 'H' shape with a horizontal line extending to the right.

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Antti Talvitie (Task Manager), who assessed the project in October 2000, prepared this report. Mr. Binyam Reja was the peer reviewer, Mr. William Hurlbut edited the report, and Ms. Romaine Pereira provided administrative support.

Principal Ratings

	<i>ICR</i>	<i>PAR</i>
Outcome	Highly Satisfactory	Highly Satisfactory
Sustainability	Likely	Likely
Institutional Development	Substantial	Substantial
Bank Performance	Highly Satisfactory	Highly Satisfactory
Borrower Performance	Highly Satisfactory	Highly Satisfactory

Key Staff Responsible

	<i>Task Manager</i>	<i>Division Chief</i>	<i>Country Director</i>
Appraisal	J. L. Irigoyen	P. Ludwig	Y. Abe
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Preface

This is the Performance Assessment Report (PAR) on the Peru Rural Roads Rehabilitation and Maintenance Project (Ln. 3962-PE) for which a loan of US\$90.0 million was approved in 1995. The project closed fully disbursed one year later than planned in December 2000.

The Operations Evaluation Department (OED) prepared this report based on a review of the President's Report, Staff Appraisal Report, transcripts of Board proceedings, project correspondence files, Bank documents on other transport projects, and other Bank material. In October 2000, an OED mission traveled to Peru together with the Intensive Learning ICR mission to discuss the project with official representatives of the appropriate ministries, representatives of the beneficiaries, both private persons and elected representatives of the communities, and to participate in the stakeholder meetings. OED also discussed the project with Bank staff.

The PAR had five objectives: (i) to examine project preparation and supervision, including borrower participation; (ii) to assess institutional developments and government commitment to reforms; (iii) to evaluate project outcomes; (iv) to participate in beneficiary meetings; and (v) draw lessons for the future.

Following standard procedures, copies of the PAR were sent to the borrower for comments. Comments received are attached as Annex C.

1. Introduction and Background

1.1 Peru is the fourth-largest country in Latin America and has a population of approximately 25 million, including several large indigenous groups.¹ The country's dual economy consists of a modern sector on the coastal plains and a subsistence sector in the interior and the mountains, which, although rich in mineral deposits, is isolated by poor transport and communications. Public education is free and available, but over 10 percent of the populace does not attend school, mainly in rural areas, where illiteracy is high, especially among women. Health care is improving. Peru's economic problem is multifaceted, characterized by poverty and unemployment, inadequate social services, especially in rural areas, skewed income distribution, regional imbalances, and poor or destroyed infrastructure.

1.2 Political turmoil and unorthodox economic policies throughout the 1980s caused severe inflation (exceeding 7,500 percent in 1990) and a decline in the GDP per capita between 1985 and 1990. The civil unrest and guerilla violence took an enormous toll. Thousands were killed and an estimated US\$22 billion in damage was inflicted on infrastructure alone. The government stopped servicing debts and the World Bank placed Peru on "non-accrual" status in 1987. A turnaround began in 1990 with the election of the Fujimori government. The "shock" treatment initiated by the new government brought hyperinflation under control but caused a recession and incited strong political opposition. Extreme measures, including the closing of Congress and the suspension of the judiciary, weakened the political opposition. But these and other moves, such as a new constitution and new laws, reduced the power of the legislature and reinforced centralism and increased the power of the executive branch. The Fujimori government did, however, deliver relative political stability, brought the insurgency under control and restored stable conditions. The economy grew in 1994–97 per capita GDP increased by 12.7 percent, but declined again in 1998–2000. Bank lending and project preparation resumed in 1992.

1.3 The unrest of the 1980s accelerated urbanization and, by 1993, 70 percent of Peru's population lived in urban areas. The return of peace and improvements in infrastructure and communications have since improved living standards in the countryside and slowed urbanization. Many farming families have returned to their lands, but the rural population remains poor. In 1994, about 65 percent of the rural population lived in poverty compared to 49 percent of the total population. To help reduce these high levels of poverty, as well as to increase access to services, reduce high infant mortality, and meet unmet basic needs in rural areas, targeted social programs were introduced, among them the subject of this assessment, the Rural Roads Rehabilitation and Maintenance Project (RRRMP, Ln. 3962-PE for US\$90 million). This project, funded and supervised by the Bank and the Inter-American Development Bank (IDB), was among the first Bank-financed projects with poverty reduction as an objective. It used social indices together with other factors as criteria and a participatory mode of work to select and implement investments. The project succeeded in achieving its objectives despite an economic downturn, slow growth in 1996, and a decline in GDP in 1998–2000.

2. Preparation and Objectives

2.1 The Bank began preparation of new transport projects in Peru in the early 1990s after a hiatus of 10 years. Only 52 percent of the 18 previous loans to the transport sector, totaling US\$641 million, had been disbursed. Two transport projects were prepared in the early 1990s, the Transport Rehabilitation Project (TRP, Ln. 3717-PE for US\$150 million) and the Rural Road

1. This section is based on *The Economist Intelligence Unit Peru: Country Profile 2000*. London, UK.

Rehabilitation and Maintenance Project. The Bank also had an ongoing loan in rural infrastructure to support FONCODES (Social Development and Compensation Fund), which included labor-intensive projects in rural areas. The IDB approved two highway rehabilitation loans totaling US\$462 million in the early 1990s. A third IDB loan, US\$90 million for rural roads, was parallel to RRRMP, used the same executing agency and management unit (PERT-PCR), and fielded joint project supervision missions. The OECF provided substantial financing to the transport sector, especially in the 1990s. This financing included grants for the studies underpinning the TRP and a US\$1.1 million Policy and Human Resources Grant for the preparation of the RRRMP and the planned Second Transport Rehabilitation Project.²

2.2 The RRRMP combined many concepts, such as poverty focus, poverty reduction strategy, community participation, empowerment, and decentralization, that are now standard in the Bank's work. The purpose of the project was to provide a well-integrated and reliable rural road system through rehabilitation and maintenance of rural roads and key links connecting to the primary road system. The goal of the government's strategy was to help alleviate rural poverty and raise living standards of rural communities through increased access to basic social services and income-generating activities. The specific objectives were to: (a) reduce transport costs and raise the reliability of vehicular access to expand markets for agriculture and non-farm products; (b) integrate zones of poor access with regional economic centers; (c) improve transport conditions in rural villages; (d) generate employment through the rehabilitation and maintenance of rural roads to mitigate rural poverty; and (e) build up institutional capacity at local government level and develop small and medium enterprises to manage and carry out, on a sustainable basis, the maintenance and improvement of rural roads.

2.3 The project was carefully prepared using a process that addressed procurement, project management, community participation, the policy setting for the objectives, the institutional framework and institutional development needs, and pilot testing of key project features. The project concept and design were crafted based on lessons learned from past projects, country dialogue, the pilot project, Bank-wide experience, and from direct observations of what had and had not worked in Peru. The totality of this experience showed that the poor disbursement record for previous Bank loans resulted from institutional weaknesses, inadequate engineering, insufficient project management, and improper monitoring of results. Success would, therefore, depend on: (i) government commitment and beneficiary participation; (ii) a locus of decision-making for policy, planning, budget allocation, intersectoral coordination, and monitoring progress; (iii) decentralized project management teams for the programming of works, supervising the consultants and contractors; and (iv) the use of technology familiar to local labor (labor-based methods).

2.4 The institutional framework (paras 3.15-3.16) was structured in July 1995 with the creation of the project management unit (PMU), *Proyecto Especial de Rehabilitación de Transporte-Programa Caminos Rurales (PERT-PCR)* under the Ministry of Transport, Communications, Housing, and Construction (MTC). PERT was the implementing agency for the TRP, and PCR was to implement the RRRMP. PERT-PCR was responsible for indicative budgetary allocations and investment programs, sectoral and intersectoral coordination, monitoring, assessing, and managing the Special Account. Deconcentrated units (UEDs), located in the project areas, programmed projects in consultation with the municipalities; managed the

2. The extent to which the studies supported by this grant were used for the preparation and design of RRRMP's final form is unclear. Evidence suggests that the results of the studies were discarded. The project design was based on the project team's observations and discussions with the government officials, which were tested in a pilot project during preparation and the early phases of the project. That is, the grant support was, at best "negative" in the sense that it indicated what not to do.

project details for engineering, supervision, and delivery; coordinated at the local level; and promoted the project and made agreements with municipalities and communities. The PERT-PCR and UEDs were management organizations and their personnel were paid private sector salaries from counterpart funds. Local consultants performed the technical tasks. Project preparation included a plan to strengthen the capacity of PERT-PCR, UEDs, the local governments, and the local small and medium-size contractors.

2.5 Community participation was an important part of project preparation. Community leaders and the heads of NGOs were the key participants, but strong publicity efforts resulted in active participation of community members (*comuneros*) and mothers' clubs. A logical framework designed by the participants in the first meetings was used to structure a community's involvement in the project. The participants were first asked to draw or describe their transport problems. They then were asked to transform these problems into objectives by drawing pictures of what their communities would be or look like after the problems were solved. Finally, the participants were asked to discuss and produce strategies to achieve their objectives or solve their problems. The participation workshops were well prepared. This included ensuring that all affected interests were invited to the workshop; that provisions were made for the participation of women and others who may hesitate to express themselves. The facilitators were trained to conduct workshops in the language of the participants.

2.6 The pilot project formally commenced at the appraisal mission in May 1995. Local consultants were engaged earlier and the first civil works were already underway. Specifically, the pilot, financed retroactively from the project funds, was used to investigate the criteria to select road sections for the project, availability and capacity of local consultants and contractors, the design and costs of the recommended civil works, and the suitability of labor-intensive methods for the planned civil works. Parts of the pilot were completed before the project, others during its first months. The key function of the pilot was to establish the right size for the project, and suggest changes for plans and processes as needed. The pilot also provided the project team with information on institutional development needs.

2.7 The areas to be covered by RRRMP were established by applying a poverty index. Subprojects within the areas identified were then determined by applying three types of criteria: institutional, technical, and social and economic.

- The overarching *institutional* concern was that the projects originate from the communities and local organizations. Local consultants validated the commitment (including participation in the costs), inclusion of local needs in the design, and agreement with other rural development programs. The UEDs consulted with the communities to ensure commitment on future maintenance (through the creation of micro-enterprises and road committees). An agreement had to exist on all these aspects before the project would be considered further.
- *Technical* criteria included considerations that local capacity existed to build and maintain them, and that the use of local labor was maximized. The procurement methods and processes that the project employed to satisfy these criteria will be discussed in greater detail in paras 3.5 – 3.8.
- The *social* criteria (infant mortality, unsatisfied basic needs, and the number of beneficiaries per kilometer) applied to subprojects with a total cost of less than US\$200,000. The *economic* criteria applied to other, costlier projects. This is a critical issue: should investments whose aim is poverty reduction be selected on the basis of benefit-cost analyses or should they be selected, without ignoring costs, on the basis of

poverty and social indicators with uncertain prospects for predictable and quantifiable economic benefits? If investments are prioritized according to economic benefits, they will neglect the very poor. The issue is what criteria should govern balanced approaches with different levels of intervention to meet economic and equity considerations. The criteria adopted in this project used economic benefits for investments above a certain threshold and social criteria below it. Furthermore, all subprojects required local commitment and agreement supplemented with local perceptions about their function.³

2.8 The logical framework used to describe the structure of the project and to monitor, assess, and report on its performance—both outputs and outcomes—is shown in Annex A. It shows the care with which the project's course was planned and how well the task team knew or anticipated what they could accomplish. It is not implied, however, that the logical framework is a preferred means to structure community participation. The participants had difficulty at first thinking in terms of objectives, means and strategies, and results. They seemed to prefer concepts such as “problems,” “activities,” and how to organize for them (that is, what to do about the problems). Nonetheless, the community participation workshops were a powerful means of mobilizing support and ownership. A significant part of their power came from continuity. The workshops were not one-time events but community participation was part of the implementation process. The logical framework used in both community participation and project structuring was introduced in this project before it became a standard requirement in Bank projects.

2.9 The experiences from the pilot project aided the construction of the logframe. Equally important, if not more so, was the local ownership of the project: the PMU was local; the consultants and contractors were local; there was continued community participation in the project selection, design, and implementation; and there was an agreed upon and shared (Bank—headquarters and country office—and IDB) responsibility for project supervision. Thus, there was a clear management structure and dependable project monitoring that attended to problems and issues that arose.

3. Implementation and Results

3.1 The project management unit (PMU) was modern but with roots in ancestral organizational structures. Its modernity was evident in a clear, well-articulated management structure (para. 2.6). The management was competent and had a good monitoring system and established procedures for procurement. The PMU/UED contracted the design, construction, and maintenance of the project's roads and NMT tracks (footpaths or *caminos de herradura*), and considered its mandate to be development of the private sector. For ancestral roots, the PMU's participation and coordination with other programs was based on *ayllu*, a model of community organization dating from the Inca empire. The PMU credo was that it not only created jobs but produced entrepreneurs: the project spawned 411 legally constituted small firms—EMVIALS—with more than 4,500 workers with entrepreneurial attitudes. This chapter presents the results of

3. Instituto Cuanto, in a comprehensive survey and analysis of the outcomes and impacts of the RRRMP (*Economic, Social, and Institutional Evaluation of the Rural Road Program*, Lima, Peru, 2000), suggests that projects should be selected based on “untapped potentialities” in order to find a sustainable solution to the poverty problem. Cuanto argued that “...many of the areas with a high concentration of very poor people do not have the indispensable economic potential to build up their development; consequently, these are not the best places to find a sustainable solution to the poverty problem...” (p. 144). The selection of areas and roads for poverty reduction purposes merits further research as it appears to be not only an economic and technical issue but also an ethical and equity issue. The ultimate questions are: why do the very poor people “not have the indispensable economic potential” and can anything be done about the circumstance of the very poor people?

the project, discusses its outstanding features—procurement, participation, decentralization and institutional development, and poverty reduction—and closes with project ratings.

Achievement of Objectives and Results

3.2 The project's physical components exceeded their targets in part because of lower than anticipated costs and in part because of increased government contribution. The civil works—road maintenance and rehabilitation, rehabilitation and reconstruction of tracks—were carried out as planned and on schedule (Table 1). The project benefited 104 of the 120 provinces in the project area and the population directly benefiting from the project is 2.8 million; the goal was to benefit 3 million people.⁴

Table 1. Outputs of the Rural Road Rehabilitation and Maintenance Project

<i>Type of civil works</i>	<i>Planned (km)</i>	<i>Executed (km)</i>	<i>Percent</i>
Rehabilitation of rural roads	7,500	8,882	118
Rehabilitation of secondary roads	2,200	2,368	108
Maintenance of roads	9,400	10,745	114
Paving of village streets	141	174	123
Rehabilitation of tracks (footpaths)	1,500	3,053	204

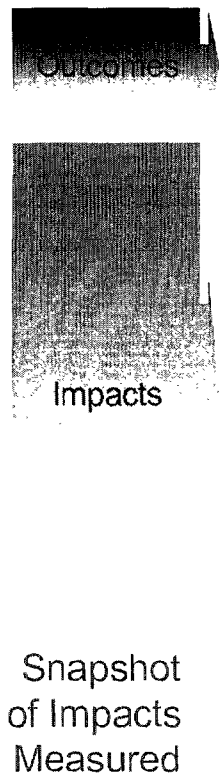
3.3 The objectives of the project were achieved. The summary results of the comprehensive impact study by Cuanto, shown in Figure 1, indicate that even during the very short time in which the rural roads program has been active all the transport outcomes indicate moderate to high levels of impact, with most outcomes registering high impacts. Travel times have decreased markedly and transport tariffs have declined 15 percent for freight on buses and 8.6 percent for trucks on the project roads. This compares very favorably with the 1.2 and 0.7 percent decreases, respectively, along "control roads." The surveys show that there has been a substantial increase in traffic volumes—22 to 196 percent depending on vehicle class—and access to marketplaces and services has improved.

3.4 The project aimed to benefit 200 rural villages but surpassed this by benefiting 390 villages. Far exceeding the expectations, the tracks (footpaths) for non-motorized transport proved to be extremely popular. This component was planned for 1,500 kilometers of track but ended up rehabilitating more than 3,000 kilometers. The tracks were designed and implemented by NGOs, which also set up mechanisms to maintain them. The project generated more than 30,000 unskilled jobs and more than 4,000 permanent jobs through more than 400 micro-enterprises. Some of the micro-enterprises have diversified to other areas as well. Finally, institutional development objectives of the project were achieved and will be discussed later.

3.5 The popularity of the tracks is somewhat of a mystery. According to the Cuanto study, the impacts of the tracks were significantly smaller than those of the roads. There were complaints over the quality of work and low productivity of the Road Committees/NGOs that performed much of the work. However, the beneficiary workshops soundly supported the tracks. This issue needs further observation and study; there may be a need to improve and augment the measures to assess the NMT tracks that fully reflect their benefits as perceived.

4. This section comments only on the striking results and is based on the Cuanto (ibid.) study; the mission supervision reports; Pablo Chirinos Vargas (2000) *Exposicion [of the RRRMP project]*; and Jose Irigoyen (2001) "Understanding Poverty Links in the Rural Highlands of Peru. Insights from the Rural Roads Project."

Figure 1. Summary of Impacts Measured (level of confidence = 92.5%)



Category	Indicator	Type	Term	Hypothesis	Impact at end Phase I
TRANSPORT	Travel time	Direct	Short	Decrease	High
	Traffic rate	Direct	Short	Increase	High
	Fare prices	Indirect	Short-Medium	Decrease	Moderate
	Freight prices	Indirect	Short-Medium	Decrease	High
	Road closure	Direct	Short	Decrease	Moderate
	Reliability of public transp.	Indirect	Short-Medium	Increase	Moderate
ACCESS TO SERVICES	N° School Registered Childre	Indirect	Medium-Long	Increase	Low
	N° of Consultations	Indirect	Short-Medium	Increase	Moderate
	N° of Judicial Causes	Indirect	Short-Medium	Increase	Null
PRODUCTIVE ACTIVITIES	N° of Police Intervention	Indirect	Short-Medium	Increase	High
	Farmed Land Area	Indirect	Medium	Increase	Low
	Land value	Indirect	Medium	Increase	Null
	Productivity	Indirect	Medium	Increase	Null
	Livestock ownership	Indirect	Medium	Increase	Moderate
	Farm prices	Indirect	Short-Medium	Increase	High
	Crop allocation	Indirect	Medium-Long	Variation	Null
	Market-oriented produce	Indirect	Medium	Increase	Null
	Access to the marketplace	Indirect	Short-Medium	Increase	Moderate
	Access to credit	Indirect	Medium-Long	Increase	Low
	N° and income of com. estat	Indirect	Medium	Increase	Low
	Income structure	Indirect	Medium-Long	Diversification	Low
EMPLOYMENT	Type of occupation	Indirect	Medium-Long	Variation	Low
	Occupation category	Indirect	Medium-Long	Variation	Null
	Productive activity	Indirect	Medium-Long	Variation	Null
	Agricultural Day's Wage	Indirect	Medium	Increase	Moderate
	Labor Force structure	Indirect	Medium-Long	Variation	Low
MIGRATION	N° of migrants	Indirect	Medium-Long	Decrease	Null
	N° of returning migrants	Indirect	Medium-Long	Increase	Low
POVERTY	Poverty Levels	Indirect	Long Plazo	Decrease	Almost Null
INSTITUTIONAL	N° of new institutions	Indirect	Short-Medium	Increase	Moderate
NEGATIVE IMPACTS					
TRANSPORT	N° of traffic accidents	Indirect	Short	Increase	Low
ENVIRONMENT	Use of soils	Indirect	Medium	Increase	Null
	Use of chemicals	Indirect	Medium	Increase	Null
	Deforestation	Indirect	Short-Medium	Increase	Low

Source: Instituto Cuanto Final Report

Procurement

3.6 Works costing over US\$250,000 used national competitive bidding (NCB) procedures and some 500 kilometers of departmental roads were procured using international competitive bidding (ICB); this covered 30 percent of project costs. Works costing less than US\$250,000 were contracted directly under fixed-price contracts and awarded on the basis of quotations obtained from at least three domestic contractors in response to a written invitation. The same procedure was used for the road maintenance and consulting contracts. This procurement method covered the remainder of the project costs.

3.7 The procurement arrangements for this project had low transaction costs, efficient use of typical designs, use of local contractors and consultants, generation of local employment and income, capacity building, use of local knowledge to augment the design, appropriate technology, and simplicity of contract forms. In the workshops, the several groups expressed their satisfaction with the employment, income, and capacity building this mode of procurement brought to the area. Undoubtedly, this mode of procurement worked because the pilot projects provided the task team and the PMU with information about the costs and their expected range. On the negative side, the method may result in lower-quality outputs than more competitive methods. However, the merits outweigh the drawback as it can be argued that the first task is to learn how to do things and only then how to do them efficiently.

3.8 The decentralized management structure of the project was instrumental in the success of procurement. The central unit of the PMU (PERT-PCR) managed the project through the regional executing units (UEDs), which invited the local consultants and contractors to bid and established the shortlists and had control of service delivery and its supervision. PERT-PCR managed through budget allocations, procurement decisions, guidelines, a monitoring system, and assessment of the UEDs. It also was responsible for the Special Account. The UEDs reported directly to the executive director of the PERT-PCR. They programmed the works, engaged the consultants, and tendered and administered the contracts. UEDs also coordinated with the municipalities and communities, which contributed to the cost of the civil works for community-managed components and some small works. The communities' Road Committees, an idea proposed in the early workshops, also oversaw the service delivery and reported any difficulties.

3.9 In sum, the procurement system was woven into the fabric of the society and grew from it. There was no need to introduce radically different methods of acquiring products or services, or totally new technologies. All development could take place gradually at the pace of the absorptive capacity of the borrower and the technological and financial capacity of the local private sector.⁵

Participation

3.10 Both the PERT-PCR and the UEDs engaged in dialogue with the communities and the project beneficiaries throughout the project. UEDs undertook numerous activities and worked together with members of the affected community. For example UEDs (i) promoted the project to the municipalities, contractors, and NGOs; (ii) supported the institution building and technical assistance program for municipalities; (iii) coordinated, reviewed, and evaluated progress and results together with the community representatives; and (iv) negotiated agreements with communities for their participation and cofinancing of projects (for tracks only, where there was in-kind contribution of labor). The communities in turn assisted the PMU by (i) cooperating in the institutional strengthening program; (ii) supporting the development of micro-enterprises (and thereby learning the value of contracting out); (iii) suggesting improvements to the design to add value to a subproject; and (iv) allocating funds to road maintenance. The UEDs also issued annual reports. In sum, there was much work in common during the project that benefited both sides.

3.11 The beneficiary workshops conducted during the Intensive Learning ICR mission were asked to consider three questions: How has the rural road program improved access and the communities? How has the program changed your life? What improvements should be made to the next rural roads program? The participants, 115 in Abancay and 89 in Cachora, were divided into groups, five in Abancay (mayors, Mother's Club, micro-enterprises, community organizations, and NGOs), and four in Cachora (municipalities and institutions, communities, rural road/tracks committees, and women). The groups organized themselves by selecting a chair and a scribe; thereafter the discussion was free and plentiful. After the group discussions there was a plenary session during which all the groups presented their "findings" for further discussion. The most interesting topics (to this observer) were the following:⁶

- There is wide range of perceived benefits, some of them unusual: improved roads allowed one-day trips to markets, eliminating the need for hotel, food, and other

5. Toward the end of the project, one UED also began procuring the consultants and works. Initially, none of the UEDs wanted the procurement responsibility although both the Bank and the IDB wanted the UEDs to assume it. The reasons for this resistance for decentralized procurement should be explored in the next project.

6. The details of the workshops and their findings will be presented in the Intensive Learning ICR.

expenses; improved tracks (footpaths) made it safe to travel at night because the traveler and the animals were less likely to fall off steep mountain sections of the track; increased tourism encouraged the young to learn English; and shorter travel time meant that the produce brought to market was of better quality and fetched higher prices. These and other quality-of-life benefits are not normally considered in economic analyses.⁷ Travel time, cost, frequency, accidents, employment, and other measurable benefits were also mentioned.

- Future projects need to consider non-road projects as an integral part of the development. These included rehabilitation of and improved accessibility to tourist attractions (such as providing places to sleep and rest, shelter for horses); improvement of schools, telephone services, irrigation, agricultural production, financing mechanisms, and capacity building in other areas besides road maintenance.
- The project was considered a major catalyst in developing the private sector and entrepreneurial attitudes.
- Surprisingly, some groups discussed whether aid creates aid-dependency. The mother's club group also discussed alcohol and its misuse among men and how availability of work and a "better life" would alleviate the problem.
- There was much discussion of how to improve cooperation between municipalities and communities, integration of other government and NGO organizations with road projects, budgets for road maintenance, and similar "governance" matters. (The administrative mechanisms in place for the RRRMP, while understood by the mayors, did not yet seem to be fully absorbed by the population and there was a feeling of non-permanence of this project and its benefits).
- All the groups felt that they were understood and well served by the project.

3.12 The meeting of the think tanks in Lima took as its starting point the studies the project had commissioned.⁸ These studies are too lengthy to summarize here (Figure 1 gives a summary, however). The meeting was important in two ways. First, it recognized the importance of such studies and the local professionals who did them. Second, the studies discussed an array of effects; consequences and probable causes of outcomes and impacts of the project; legal framework and means of intergovernmental cooperation; gender issues; paths of development (autoplastic and alloplastic)⁹; and aid dependency. These kinds of studies and discussions form the basis for developing and restructuring a sector and developing its institutions to serve the country and the people.¹⁰

7. However, these considerations affected the design in the RRRMP because of continuous dialogue by the UEDs.

8. Three studies in particular were discussed: Instituto Cuanto (2000) *Economic, Social, Environmental and Institutional Evaluation of the Rural Road Program*; Maria Teresa Ore (2000) *El Impacto Socio-Cultural del Programa Caminos de Herradura 1995-2000*; and (unknown author) *Efectos de los Camiones Rurales en las Relaciones de Genero*.

9. Alloplastic change refers to changes in the material, external world (leading to changes in perceptions and choices) and autoplastic change to changes in the non-material, inner world (also leading to changes in perceptions and choices).

10. In a paper Talvitie, A. "International Experiences in Restructuring the Road Sector." *TRB Record No. 1558*, pp. 99-116. (1997) National Academy Press I identify these kinds of studies and meetings ("object-oriented studies") as belonging to the second phase of restructuring the road sector. The cofinancing meeting described in the next paragraph belongs to the third phase ("self- or institution-oriented studies").

3.13 The cofinancing meeting with a half-dozen municipalities, one of the many similar ones, addressed the cost sharing in maintenance of the roads rehabilitated by PCR to ensure sustainability, and participation in the eventual Second RRRMP. Cofinancing is related in Peru to decentralization, both administrative and fiscal, and cannot be resolved in the context of a rural roads project. However, its significance to long-term sustainability of maintenance and construction of local roads cannot be underestimated. Several issues are involved:¹¹ municipal jurisdiction over the local road system; cooperation among municipalities; sense of “ownership” of and responsibility for road management; financial and fiscal capacity of the municipalities to own the local roads; (excess manpower and machine) capacity¹² of some municipalities to do the work by themselves; and the strings attached to intergovernmental transfers. For the assessment, the agenda of this meeting and the “technique of negotiation” UED had adopted were engaging. The PMU asked the municipalities to share 35 percent of the maintenance costs of the roads rehabilitated by the PCR. For many municipalities this was a steep price. The meeting focused not on the direct results or the 35 percent cost sharing but on the problems, implications, and ramifications cost sharing entailed. Everyone talked. The matters were clarified, but no decision or agreement was reached and none was demanded by the UED. It was agreed to return to the matter again in a later meeting.¹³

3.14 Despite some acknowledged flaws in the project’s dialogue—some people felt left out or at least not heard, and at least one mayor excluded women from the dialogue—participation in this project “worked.”

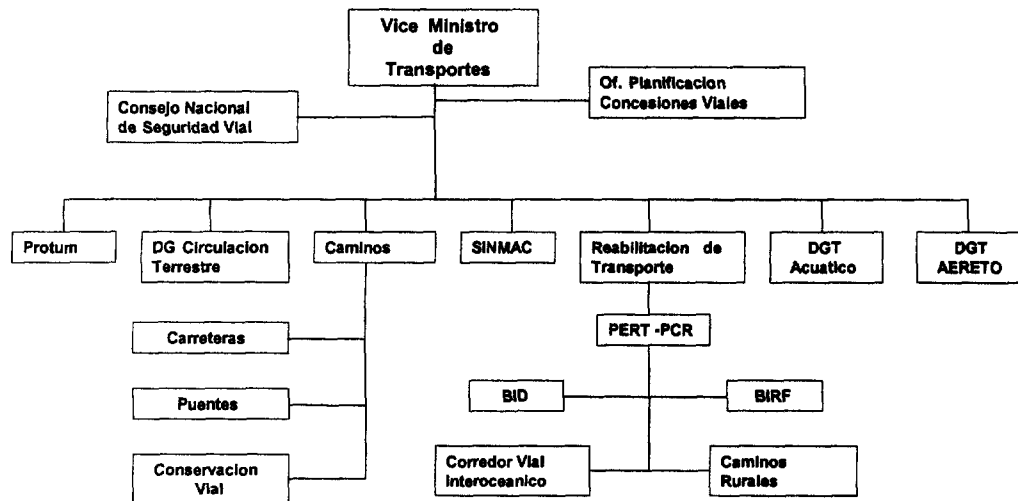
Decentralization and Institutional Development

3.15 The road sector organization in Peru is centralized. The Vice-Minister of Transport is one of the three who serve the Minister of Transport, Communications, Housing, and Construction. The vice-ministry has a non-hierarchical structure (Figure 2): the General Directorates of Highways (Caminos), Maintenance (SINMAC), and Rehabilitation (Rehabilitación de Transporte), where the PMUs for RRRMP and TRP reside, all report to the minister. In the past 15 years, the responsibility for roads has changed from the central government to regional governments and back (partially). Today the responsibilities remain unclear and overlapping and there is a strong dependency on central government budgets and budget transfers. In particular, the rural roads receive funding through the Municipal Compensation Fund, an intergovernmental transfer, 80 percent of which is earmarked for investments, making it difficult for fiscally weak municipalities to fund road maintenance. Given this clouded picture, which clearly affects the long-term sustainability of the RRRMP and all transport projects in Peru, decentralization and the transport sector’s institutional development ranks high in importance and warrants continued technical assistance.

11. These issues are discussed at length in the supervision mission report, December 15, 2000.

12. This excess machine capacity derives from a restriction in the use of transfer funds. There was a lack of funds for operating expenditures but there was, in some cases, an excess of investment funds, which were used to buy machines.

13. The UED head later told the auditor that eventually the municipalities will agree to the cost-sharing, but the matter is new and requires “more talking.”

Figure 2. Transport Sector Organization

3.16 The RRRMP has been able to create a hierarchical structure of its own for managing the rural roads (para. 2.5) with strong capacity and emphasis for intersectoral and intergovernmental dialogue. It is apparent that the size of the program, US\$250 million with loans of US\$90 million each from the Bank and the IDB, provided the enabling resources for such an organization. Given the limitations of the sector framework, the project successfully addressed decentralization and developed an institutional structure appropriate to it (described in Project Preparation, paras. 2.3–2.8, and Participation, paras. 3.9–3.12). The institutional development/decentralization work is not completed. The PERT-PCR/UED structure needs to be institutionalized and expanded to cover the entire country within a coherent road sector management organization and clearer financing instruments.¹⁴ Within the context of the Municipal Law the project team is proposing for the provinces a Maintenance Cofinancing Mechanism (MCM). Many aspects of this mechanism are attractive, not the least that it is consistent with the Municipal Law, encourages cooperation and local capacity building, and formalizes the accountability and reporting requirements.¹⁵

14. The Banks' project teams planned that consultancy TA would train staff in PERT-PCR and UEDs, the MTC, the municipalities and micro-enterprises in planning, managing, and maintaining rural roads. Although it is unclear, the consultancy for this training probably did not accomplish its objectives and was discontinued. The failure of this training may partly explain the insufficient quality of some of the roads. Cuanto's study enumerates some of the deficiencies, but the matter is still under review. PERT-PCR and the UEDs did successful training on the job. Presumably, however, there is a need for upgrading the skills of the local consultants.

15. This is discussed in greater length in the supervision mission report, December 15, 200. Other literature used: OED (1998) *Performance Assessment of Five Indonesia Transport Projects*, pp. 24-27; DFID (Parkman C., K. Madelin and R. Robinson, 1999) *Improving the delivery of road maintenance* (Unpublished report, August 1999), TRL Ltd, UK.; and Catharina Sikow-Magny and A.P. Talvitie (1996). *Efficient Organization of Highway Construction, Rehabilitation and Maintenance*. TRB Record 1558. Washington D.C.

Poverty Reduction

3.17 The project closed in December 2000 and it is too early to conclude about its poverty reduction effects. There also has been a recession in Peru and the GDP declined between 1997 and 2000. Some evidence related to poverty reduction is available, however. Figure 1 shows that there has been a small increase in farmed land area, a moderate increase in livestock ownership and access to markets, and a high increase in farm prices in the beneficiary areas. In all the workshops, income generation and employment were mentioned as major benefits from the project. An independent study, conducted by Mr. Javier Escobal based on Cuanto data, found that when controlled for household assets, the poverty rate has declined by 1.22 percent in the areas served by roads and 0.66 percent in the areas served by tracks. The reduction was more pronounced in the areas of extreme poverty served by tracks (2.65 percent). Finally, the micro-enterprises that arose in response to demand for road maintenance have started to diversify and have entered other markets besides road maintenance.¹⁶

3.18 So, there are positive preliminary signs, but it is too early to make interpretations about how effective this project or rural road programs in general are for reducing poverty. Cuanto made this explicit in arguing that “many of the areas with a high concentration of very poor people do not have the indispensable economic potential to build up their development; consequently, these are not the best places to find a sustainable solution to the poverty problem...” (Cuanto p. 144). But this is opinion not fact. Clearly, extreme poverty is a symptom of more deep-seated problems.. According to Cuanto’s opinion survey, the majority of people served by roads felt that their total incomes were more stable as a result of the project while the people served by tracks felt just the opposite. What is the reason for these feelings when a study, with admittedly weak evidence, inferred that the areas of extreme poverty experienced the greatest reduction in poverty even during a time when the GDP declined? Do the people in areas served by tracks feel more threatened? In the workshops, this observer could not avoid the feeling that one was listening to and working with people who had been forgotten for a long, long time.¹⁷

Ratings

3.19 The Intensive Learning ICR ratings are not yet available. The PAR rates the outcome of the project “highly satisfactory,” sustainability “likely,” and institutional development impact “substantial.” The project objectives were both timely and relevant. They were met or exceeded, satisfied both efficiency and multidimensional efficacy requirements (para 2.7) and promoted development. As mentioned, the project pioneered many innovative products and processes in procuring the civil works in a manner that supported private sector development. The task team and the PMU engaged the community in the project from concept through implementation that created ownership and pursued institutional development that supported not only the poverty reduction objective but also the sustainability of the civil works and the viability of the private sector. There remains an important unfinished government agenda on (road sector) decentralization, both fiscal and administrative, that has an effect on sustainability. It is important

16. . More research is needed on the nature of poverty. Recent surveys for IPRSPs suggest that the incomes of poor people are volatile and change annually from quarter to quarter. They seem to be immediately and adversely affected by declines in the GDP but not necessarily improved if there is GDP growth. During this project’s cycle there was both growth and decline in the GDP and the poverty declined slightly.

17. One could interpret the Cuanto survey to give indirect support to the validity of this observation. A question of what are the most important factors for rural families ranked “improved transport services” second after weather and “access to markets” third. The ranking is the same for families served by roads and tracks. This can be interpreted either as a fact or, more likely, as a Hawthorn effect: forgotten people rank high and tend to respond to any attention they are given.

that the Bank remain an active partner with the government to ensure continuation of the road sector's decentralization. This is one of the key recommendations of the assessment (para 4.2). A successful resolution is needed because, in the long run, the sustainability of the project's accomplishments also rests on increased local decision-making responsibility and local fiscal resources.

Bank and Borrower Performance

3.20 Bank performance was highly satisfactory. The results and the discussion of the salient aspects of the project in the previous sections, the path-breaking design and supervision of the project, and the project team's ability to break the pattern of non-disbursement, support this rating. Bank performance was consistent throughout the project from preparation and preparation assistance through implementation. Part of this outstanding performance was the task team's ability to attune itself to the local ethos and work seamlessly both with the PMU and the involved communities.

3.21 Borrower performance also was highly satisfactory. The borrower fully "owned" the project from beginning to end. It ensured timely community input throughout the project, diligently managed the civil works, helped develop the private sector, coordinated with affected interests, and was an effective spokesman among the beneficiaries and in Peru for the project's social and economic importance.

3.22 The OED assessment mission participated in two beneficiary workshops (in Abancay and Cachora), a meeting on cofinancing issues with a collection of cities in the project area (in Paucartambo), and a project assessment meeting with local think tanks in Lima. Opinion was unanimous that roads and transport, passenger and freight services, and the connections between the cities and villages served, had improved markedly as a result of the project. Meetings of this sort were an integral part of the Bank and borrower performance, and of the project's results. The workshops and meetings demonstrated the broad effects of the project. They spanned community interests in the design features of a road or track as well as academic and analytical evaluation of the project impacts, gender issues, ensuring sustainability of results, and dependency on external aid.

4. Conclusions and Lessons Learned

4.1 The Bank's preparation, implementation, and supervision of the project were, albeit indirectly, outcome-producing: created strong local ownership, developed institutions, and achieved tangible and desirable results. There are several lessons in how that was done. Undoubtedly, the project concept and its implementation, developed together and owned by all, were key to the project's success. But why did the success happen or, in the words of the Learning ICR team leader, "what causes change?" The interpretations in the lessons that follow may be unconventional, but they are not made hastily nor are they without a solid empirical basis if the evidence is interpreted that way.¹⁸ Thus, although this assessment inspired the lessons, their

18. For example, Schein, E. (1990) "Models of consultation: What do organizations of the 1990s need?" *Consultation: An International Journal*, 9 (4), pp. 261-275; Talvitie, A (1998) *Transport policy and the transport problem. The question of finding cure*. Paper in the 4th WCTR Conference, Antwerp, Belgium; Willson, R. (2001) "Assessing Communicative Rationality as a Transportation Planning Paradigm" *Transportation*, 28 (1), pp. 1-31, and Talvitie's discussion of Willson's paper in the subsequent issue *Transportation* 28 (2); Ellerman, D. (2001) *The Indirect Approach*, World Bank (DECVF); and references in these papers.

roots are long and reach several assessments, observations, and literature on learning, teaching and development, and organizational change. The lessons are advanced as hypotheses to be tested and discarded or adopted as more evidence accumulates

- ***View the project as an experiment and include society broadly in it.***¹⁹ Transport projects nearly always need to be put into a broad socioeconomic context. The beneficiary workshops demonstrated beyond doubt that, for the beneficiaries, economic activities, markets, human resources, health, education, and technology are inter-related and could be addressed in a transport project. Many benefits were perceived after a project was completed (para 3.11). If such important results are ignored, the project's benefits are misunderstood and the learning effects overlooked. Viewing projects as experiments and observing its results allows for social learning—and development. Markets and services cannot develop without a good transport system, and training and technology are critical for meaningful improvements in the functioning of markets and social services. Beyond the immediate beneficiaries, civil society, especially universities and think tanks, also need to become involved to study and analyze all aspects of projects viewed as experiments. This multi-layered approach informs the public debate and increases the cohesion of the society. The project did this admirably, but more could be done.
- ***Structure participation as progressive and continuous dialogue.*** Despite some acknowledged flaws in the project's dialogue—some people felt left out or at least not heard, and at least one mayor excluded women from the dialogue—participation in this project “worked.” Participation worked in this project because it was not a one-time effort but continuous dialogue from start to finish. An analogue clarifies this. Computerization that merely automated processes without adapting them is less likely to result in expected productivity improvements. Similarly, community participation is most likely to bring the expected productivity improvements if it is a continuous process. Community participation that is done only at the beginning of a project to define it but that leaves the project processes unchanged, vulgarizes the notion of participation. Progressive dialogue, as done in RRRMP, recognizes that participation is a learning process and a way to shape the product and the outcome. Continuous participation can also reduce transaction costs of participation for subsequent projects, because once all parties are on board, there is no need to start out all over again in organizing participation for entry.
- ***Interactions with the borrower and beneficiaries should take place in terms that they understand and in a context they set.***²⁰ Although it is part of the Bank's ethos to display

19. The word ‘experiment’ should be understood in a complex scientific sense where the experimenters and observers (the lender and the borrower) are part of the experiment. The dimensions of the experiment's outcome are unknown, affected by the experimenters and observers themselves and who, furthermore, are part of the outcome. A peer reviewer elaborated on why a project should be seen as an experiment as follows: “the experimental nature of projects is that they can be both learning tools as well as pilots. By providing the opportunity to work, projects allow the client to ‘learn-by-doing’. And once the learning happens, a certain human capital is accumulated to allow development to take place on a larger scale. In the transport sector, this would mean that the client uses projects to learn on how to organize the transport system and to use this experience to restructure the sector to make it responsive to the development needs of the country.” Hirschman's concept of ‘the centrality of side-effects’ also supports the idea of projects as experiments. Hirschman (1967) *Development projects observed*. World Bank Vice-President Callisto Madavo (New York Times, May 12, 2001) called the recently approved oil-pipeline project in Chad an experiment in the sense recommended in this assessment.

20. Several times workshop participants told the PMU and Bank and IDB staff “thank you for coming into our world.”

expertise and mastery and give advice, it is preferable not to do so.²¹ This project demonstrated a better way: learn how the client (or the group) thinks and what motivates the client by asking questions (called “contact functioning” in the literature). New ideas, such as competition or the Bank’s procurement procedures can be introduced indirectly, on the job (as was done in this project) and with questions at opportune moments. This can be difficult. In the early community participation events, attendees had difficulty thinking in terms of objectives, strategies, and outcomes. It is not known how much the introduction of “foreign” thinking affected the final product. This may seem a fine point, but it is important and must not be ignored. It would have been possible—but probably not as easy—to follow the “contact function” and the line of thinking of the participants.

- ***Watch for the “huge problem” and allow a measure of flexibility in the objectives.*** In the workshops conducted for the Learning ICR, Peru was said not to have many problems, but rather a single huge problem that is cross-sectoral, interconnected, difficult to quantify, and about which perceptions change. A single project, such as the rural transport project, can be part of the solution to such a problem only if it allows for flexibility in its intermediate outcomes. But such a conception is somewhat at odds with the logical framework, which tends to reinforce particular intermediate outcomes as the only route to an expected result. Using participatory approaches, the core of the problem can be conceptualized and the project designed to begin scaling toward its solution. This was done in RRRMP. By using participation on a continuous basis to discuss problems and select investments, the project in effect brought cross-sectoral influences to bear on the outputs and outcomes. In RRRMP most objectives were quantifiable, but leeway was allowed in how to measure their achievement, although the connection between an objective and its monitorable indicators was not clear cut.²²
- ***Continuous analysis and patient listening will more likely lead to success than will you mechanistic a focus on achieving results.*** An excessively narrow focus on achieving results diverts attention from the problems and prevents the achievement of the results. The key is to analyze the resistances and problems that stand in the way of making good decisions. This project provides many examples that demonstrate the validity of this lesson. For example, in the cofinancing discussions, the desired result of 35 percent share was not the central concern. The central concerns were analyses of what prevented the municipalities from assuming that responsibility, what were the (many) implications, and what had to happen for them to maintain the roads using competition as the mode of work.²³ Project issues—such as the cofinancing issue—should be explored and analyzed

21. This does not mean that World Bank professionals should not be experts. They should be broadly competent experts and professionals. The issue raised here is how this expertise is used: the technique of how to work with the client.

22. When the size of the project is known, it is often a straightforward task to calculate the jobs generated and the number of kilometers to be maintained or rehabilitated. Though important, these output indicators are less relevant to success than an indicator of outcome, such as reduced transport costs. However, the indicator used in this project, a 30 percent reduction in freight tariffs, was difficult to measure and was not achieved. Clearly, without engaging in further discussion, these—or the other—logframe objectives and indicators hardly had much impact on the project’s implementation, they merely defined it; the logframe’s most important use was as the organizing concept for tracking the implementation progress.

23. This last sentence introduces an important dimension to analysis: it is a vehicle to introduce new ideas—such as competition and entry to market. It is also acknowledged in this context that it is difficult (for Bank management) to ignore results because it blurs accountability and because the Borrower may opt for actions leading to results that the Bank (management) has difficulty in accepting. Nonetheless, if after substantial, skillfully conducted discussions, the Borrower opts for actions that the Bank (management) does not agree with, the Bank can refuse cooperating in such project. However, it is worth minding that actions and results desired have cultural underpinnings and it may not be

together in the participation meetings, and designs or approaches changed to meet the needs of the beneficiaries (as was done), alternatively, the beneficiaries may find it to be in their interest to change. If it is believed that a “bad” decision is being made, the best approach is to try to prevent it by postponing, acknowledging the validity of decision-makers’ or community’s views on the matter, and engaging them to discuss and analyze the issues. Pushing for decisions and convincing the client are counterproductive in the long run. Decisions are made when they can be made, and the borrower should make them, freely, only when ready to do so. Again the referenced cofinancing meeting was an excellent example of not acting hastily or demanding decisions.²⁴

- ***Explore with the stakeholders why something succeeded or failed to define benefits and costs.*** It is important that the Bank (staff) and the borrower attempt to say why something worked or failed (e.g., to achieve a time-bound objective). Successes and failures never have one cause. In this way all factors bearing on success or failure become known or at least suspect. Even successes may have a dark side. For example, the success of this project was widely recognized during the Learning ICR mission. Still, both direct beneficiaries and academic researchers raised the issue of aid dependency. Aid dependency was recognized as a serious problem that can prevent self-directed solutions. Although awareness does not prevent or cure aid dependency, acknowledging the validity of the issue is the first step to cure. Another issue that merits examination in the present project is the popularity of the non-motorized transport tracks. The tracks were associated with low impacts and perceived instability of income, yet they seemed hugely popular. Why? There must be perceived benefits. More broadly, exploring successes and failures together helps define all benefits and costs. As indicated (para. 3.11), the beneficiary workshops gave a much broader picture of project benefits than what is normally calculated in standard benefit-cost analyses.
- ***Change is caused by emotional communications, rarely by interpretations or facts.*** The final lesson returns to the question the team leader posed during the Learning ICR mission: “what causes change?” This project, consciously or not, was guided from the beginning by the notion of two kinds of changes: alloplastic change (the material, external world is changed, leading to changes in perceptions and choices) and autoplasic change (the non-material, inner world is changed, also leading to changes in perceptions and choices). This was implicit in the workshop discussions and explicitly acknowledged and discussed in the think tank meeting. There is knowledge of how to make alloplastic changes, but there is less knowledge about what motivates autoplasic changes that precede the former. The academic tradition believes that facts and intellectual education

consistent with the Bank’s values to pursue “results” with such single-mindedness that lead to cultural homogenization (even though some degree of cultural homogenization is inevitable).

24. This lesson is subtle in its workings. An example clarifies. Recently, a consultant working on ministry restructuring was at an impasse. The client wanted something that, we agreed, was not good governance. He asked me what constituted “success” in that project because he had a deadline. I told him that we had time and he should quit pushing the minister and his staff to agree with him and to decide. Instead of trying to convince, he should work to prevent the minister from making a “bad” decision, which he was about to do. He could do this by agreeing with the minister and his staff by telling them that there are many unresolved issues and the matter is not ready for decision. These should be explored and discussed more. About a month later the consultant called and told me that the minister is ready to make a “good” decision and now wants his help to get it thorough the parliament! A hypothesis is that my readiness to accept delay was the right kind of emotional communication that removed pressure from the consultant who was then able to work effectively and with less pressure on the minister and his staff. [The story is longer. The consultant’s manager called me and asked if what I had said to his employee was true. I confirmed. He then brought up another problem down the road (retrenchment and pay reform) and asked if the same approach could be applied. I readily agreed]. Often the Bank works with results-oriented, time-bound action plans. This is counterproductive and rarely works. Even when the results are achieved they are normally short-lived or attended by undesirable side effects.

cause changes in perceptions and behaviors. Recent research casts doubt on such belief and supports emotional education and emotional communication as the mechanism of change.²⁵ The issue is how can emotional communications be developed and used scientifically and without coercion? Without reviewing the literature on the matter here—it does exist—it suffices to note that before emotional communications are possible the transport analyst needs to learn how the client thinks, what motivates him, and everything about the problems and issues; in short, continuous dialogue and the development of long-term relationships are prerequisites for emotional communication. The RRRMP project pursued an extensive participation program complemented with academic studies. This approach is appropriate and justifiable. That is a good beginning. More research is needed to understand better change processes and the attendant ethical issues.

4.2 The assessment concludes with three specific lessons:

- ***A PMU is more than the manager of procurement and the Special Account.*** The Bank requires financial management and procurement assessments and certification of the PMU competence in both. This project demonstrates amply that these attributes of the PMU, while desirable, fall far short of what is needed. The PMU director needs to be a spokesman for the project, an active negotiator for coordination of intersectoral interests, and above all, provide visible leadership and know the spokesmen of the project's beneficiaries and become known to the beneficiaries for his work. The PERT-PCR has assumed and developed into such a role. Part of the success of the project must surely be ascribed to the PERT-PCR leadership and to its excellent and personal relationships with the beneficiaries.
- ***A good project monitoring system is necessary for its management.*** Any project needs a database and accurate records *in the background* to support management. The RRRMP had both comprehensive and specific objectives. The PMU project information and monitoring system (SISP) supported and served both types of objectives. The Operational Manual defined uniform guidelines and procedures for the execution of the project. Without such a database and manual, it would have been impossible to hold the RRRMP together, which covered 12 provinces and hundreds of projects, employed numerous consultants and contractors, and arranged several coordination meetings with multiple groups of beneficiaries. Data collection for the database is also good way to learn and it informs the management team of its beneficiaries and tasks.
- ***The unfinished decentralization agenda remains an important issue and should be pursued.*** Although the change from centralized to decentralized road management cannot be done top-down, it should be compatible with the administrative structure of the general-purpose government. Decentralizing a road administration also requires a process that is incremental and appropriate to a country's development stage to match both the perceived needs and the institutional capacity. It must be accompanied with stable and predictable financing and fair mechanisms for allocating the road budget between areas and road classes and road programs. The previous attempt at road sector decentralization in Peru failed because the transfer of road ownership was not accompanied with a budget and human resources or institutional capacity to manage the roads, only responsibility for road management was transferred. This equation does not hold true.

25. Of course people in advertising, the arts, religion, and politics have known this all along. "Facts" and data can also be emotional communications, especially after long (emotionally involved) study of a subject matter, which normally includes a personal relationship.

4.3 This project is consistent with an emerging paradigm for transport planning and (economic) development (Willson 2001). It recognizes the fluidity of values, the dependency between ends and means, and the centrality of putting experiences and perceptions into words—participation—for demand-driven change. For the Bank to be effective its staff needs to be open to new ways of doing things, experiment, observe, and assist in change by being and using “doctors,” “content experts,” and “process consultants” (Schein 1990). This RRRMP project is novel and innovative. The lessons learned outlined how a new approach, a new model of working with the client for development, evolved during project. The essential features of the model were: view the project as an experiment; engage in continuous dialogue with the borrower; interact with the borrower and beneficiaries in terms that they understand and in a context they set; watch for the “huge” problem and allow flexibility in the objectives; focus on analyzing problems, not achieving results; explore failures and successes together with the borrower; and finally, learn to use emotional communication for facilitating change. This is the “idea” side. On the “practical” side, the PMU must show leadership and be a spokesman for the project, be capable for conducting sectoral and intersectoral negotiations, and establish good relations with the spokesmen of the stakeholders. In the background, the PMU must have an excellent project information and management system to keep track of the project. And finally, the PMU must quietly look ahead and prepare to tackle the sector’s priorities, the unfinished agenda.

Final Word

4.4 The RRRMP is a path-breaking and innovative experiment with interesting and promising results. It should become an example and an experiment for institutional learning. It also is deserving of recognition. All the partners in the project share this recognition: the Bank team and the IDB team who conceived and supervised the project together, the PMU and the country office who managed the project, and the beneficiaries who cooperated and owned the project. Much work remains. It would be desirable for the Bank to remain connected and continue working with the borrower and the beneficiaries because autoplasmic changes require time. It is a reassuring signal that the government of Peru regards this project as important and, despite the present political turmoil, wants to go ahead with its successor project.

Annex A: Logical Framework and Rural Roads Six-Year Program Indicators

<i>Narrative Summary</i>	<i>Measurable Indicators</i>	<i>Means of Verification</i>	<i>Important Assumptions</i>
<p>Goal:</p> <p>Alleviate rural poverty and raise living standards of rural communities through increased access to basic social and economic infrastructure.</p>	<p>In five years time...</p> <ul style="list-style-type: none"> • 80% of communities in program areas are interlinked by a reliable and affordable public transportation system. • Freight tariffs for transportation of agriculture produce cost 30% less than in 1995. • Passenger tariffs for transportation in rural areas cost 30% less than in 1995. • Commercial traffic (buses, pick-ups and trucks) increased by 30% three years after completion of road improvements. • US\$250 million or more has been invested in works contracted out to local communities and contractors. • 35,000 one-year equivalent of non-skilled seasonal jobs generated by road rehabilitation works. • More than 4,000 of non-skilled permanent jobs generated by road maintenance works contracted out to microenterprises. 	<ul style="list-style-type: none"> • MTC and local governments statistics on registration and inspection of transport services. • Survey of consumers' satisfaction of basic transportation needs, carried out in a sample of subprojects and presented at mid-term review and end of project. • PERT-PCR's project monitoring database and traffic counts. • Contract Data and supervision reports prepared by consultants. 	<ul style="list-style-type: none"> • Favorable macro-economic conditions and terms of trade. • Continuous Government's support to poverty eradication policy and the project itself. • Favorable natural conditions in project area.
<p>Purpose:</p> <p>Provide a well-integrated and reliable and system through rehabilitation and maintenance of rural roads and key links of connecting departmental roads</p>	<p>25% of the rural and departmental roads of Peru are rehabilitated and subject to sustainable maintenance, in two phases:</p> <p>At mid-term review...</p> <ul style="list-style-type: none"> • 1.5 million rural population (out of a total of 2.7 million in the six departments that rank highest in rural poverty has access to 7,000 km of rehabilitated and maintained road systems. <p>At program completion...</p> <ul style="list-style-type: none"> • 3 million rural population (out of a total of 4.5 million in the 12 departments that rank highest in rural poverty has access to 17,000 km of rehabilitated and maintained road systems. 	<ul style="list-style-type: none"> • PERT-PCR's project monitoring database and MTC's road inventory system. • Performance Assessment carried out annually by independent consultant. 	<ul style="list-style-type: none"> • Government completes its decentralization agenda, with a distribution of responsibilities and funding for road maintenance. • Local governments and communities develop ownership of the project and link the purpose of the project to individual progress, thus supporting it. • Municipalities are eager to adopt a "maintenance culture" and assume their responsibility for sustainable maintenance of even those roads with lower priority for them.

Narrative Summary	Measurable Indicators	Means of Verification	Important Assumptions
Road Components: <ul style="list-style-type: none"> • Rehabilitation of Rural Roads • Rehabilitation of Connecting Roads • Routine Maintenance of Roads 	At mid-term review... <ul style="list-style-type: none"> • 5,000 km of rural roads are brought up to an adequate level of trafficability. • 2,500 km of connecting roads are brought up to "good" condition. • 7,500 km of roads are routinely maintained and kept in pre-determined condition applying guidelines developed under the project. • PERT-PCR's deconcentrated units are fully operational in 6 departments. At program completion... <ul style="list-style-type: none"> • 12,000 km of feeder roads are brought up to an adequate level of trafficability. • 5,000 km of connecting roads are brought up to "good" condition. • 17,000 km of roads are routinely maintained and kept in pre-determined condition. • PERT-PCR's deconcentrated units are fully operational in 9 departments. 	<ul style="list-style-type: none"> • MTC's road inventory and PERT-PCR's project monitoring database. Road conditions are defined in accordance with the Project Operational Manual. • Road condition survey performed as part of the Performance Assessment. • Satisfactory appraisal of OERT-PCR's deconcentrated units by MTC, IDB and the Bank. 	<ul style="list-style-type: none"> • Security situation does not prevent execution of the works. • The "local" construction industry develops capacity to undertake the large volume of works targeted under the program.
Village Components: <ul style="list-style-type: none"> • Improvement of Streets • Improvement of Non-Motorized Transport 	At mid-term review... <ul style="list-style-type: none"> • 100 km of streets improved in not less than 140 villages located in project area. • Five pilot NMT (non-motorized transport) projects implemented. At program completion... <ul style="list-style-type: none"> • 220 km of streets improved in not less than 300 villages located in project area. • 20% of the "integrated" road projects carry a NMT component. 	<ul style="list-style-type: none"> • Certification of work completed in accordance with technical specifications set in the Project Operational Manual, issued by supervisor. 	<ul style="list-style-type: none"> • Communities willing to participate and commit resources. • Coordination with other programs enhance financial access to intermediate means of transport.

Narrative Summary	Measurable Indicators	Means of Verification	Important Assumptions
<p>Institutional Development Component:</p> <p>Technical assistance for:</p> <ul style="list-style-type: none"> • Planning and management of Rural Roads at MTC, PERT-PCR and local governments. • Developing micro-enterprises and SMEs for rural road maintenance • Developing the local construction industry Studies: • Local Road Administration Practices • Rural Roads Funding. 	<p>At mid-term review...</p> <ul style="list-style-type: none"> • Rural Roads Unit is operating with DGC with satisfactory capacity to plan and monitor investments and transport performance. • The revised functional and jurisdictional classification of roads and the inventory of all public roads in Peru are implemented. • 60 provincial municipalities (out of a total of 71) have adopted institutional programs designed under the project. • 100 microenterprises and SME's are participating in routine maintenance contracts. • More than 150 local contractors and consultants are participating in training programs developed under the project. • Studies on Local Road Contracting Practices and Rural Roads funding Strategies completed <p>At program completion...</p> <ul style="list-style-type: none"> • More than 300 local contractors/ consultants are registered with PERT-PCR and participating in project activities. • 250 microenterprises and SME's are participating in routine maintenance contracts. • 100 provincial municipalities (out of a total of 117) have adopted institutional programs designed under the project. • 15 municipalities meet criteria for execution of project components. • Procurement procedures under local governments streamlined. • Mechanism agreed for funds for rural road maintenance between central and local government 	<ul style="list-style-type: none"> • Satisfactory appraisal of the Rural Roads Unit by IDB and the Bank. • Project Monitoring Database. administered by PERT-PCR. • Registration of micro-enterprises, contractors, and consultants (Consulcop and project registers administered by PERT-PCR). • Performance Assessment of Institutional Development Components performed by independent consultant. 	<ul style="list-style-type: none"> • Government is committed to empowering municipalities. • Municipalities eager to actively join the technical assistance program. • System of inter-governmental transfers and local revenue sources in place as a result of the decentralization agenda.

Annex B: Basic Data Sheet

Key Project Data (amounts in US\$ million)

	<i>Appraisal estimate</i>	<i>Actual or current estimate</i>
Total project costs	25.23	264.03
Loan amount	90.00	86.77
Cofinancing	90.00	90.00
Date physical components completed	12/31/1999	12/31/2000
Economic rate of return		-

Staff Inputs (staff weeks)

<i>Stage of project cycle</i>	<i>Actual/Latest Estimate</i>	
	<i>No. Staff Weeks</i>	<i>US\$ ('000)</i>
Identification/Preparation	57.50	149.10
Appraisal/Negotiation	56.00	143.84
Supervision	114.25	320.46
ICR	3.01	12.35
Total	230.76	625.76
Total	230.76	625.76

Note: The low cost of the ICR stage is not indicative of the cost of the activities performed for its preparation since most of the activities and studies were carried out in the context of project supervision and appraisal of the following on Second Rural Roads Project, which provided the funding under their respective budgets.

Mission Data

<i>Stage of project cycle</i>	<i>Month/ year</i>	<i>No. of persons</i>	<i>Specialized staff skills represented a/</i>	<i>Performance rating</i>	
				<i>Implementation Status</i>	<i>Development Objectives</i>
Identification/ Preparation	8/1994	3	HWY EGRS, TRANSP SPEC		
	10/1994	6	HWY EGR, TRANSP EGR, TRANSP SPEC TRANSP ECON, ECON, PROC		
	10/1994 (IDB)	2	ECON, HWY EGR		
Appraisal/ Negotiation	5/1995	9	HWY ENG, TRNSP EGR, TRANSP ECON, SOC, PROC, ECON, ENVIR SPEC, INST SPEC, PROC		
	5/1995 (IDB)	3	HWY EGR, ECON, ENVIR SPEC		
Supervisión	3/1997	3	HYW EGR, INST SPEC, NGO SPEC	S	S
	11/1997	3	HWY EGR, NGO SPEC, INST SPEC	S	S
	4/1998	2	NGO SPEC, INST SPEC		
	9/1998	3	HWY EGR, NGO SPEC, INST	S	S
	3/1999	5	HWY EGR, ECON, INST SPEC, NGO SPEC, OPER	S	S
	10/2000	3	HWY EGR, TRANSP ECON, MUN SPEC		
ICR	4/2001	2	HWY EGR, NGO SPEC	S	S
	4/2001 (IDB)	2	TRANS ECON, ENV		

Annex C: Borrower Comments

Unofficial translation

27 Jun. 2001

**Ministry of Transport, Communications, Housing
And Construction**

Official No. 440-2001-MTC/15.02.PERT.03

Messrs.
The World Bank
IBRD
IDA

Attention: Alain Barbu
Manager Sector and Thematic Evaluation Group
Operations Evaluation Department

Re. **PERU**: Rural Roads Rehabilitation and Maintenance Project (Loan 3962-PE)

In reference to your Performance Audit Report sent to us, by fax, on June 11, 2001, we would like to notify our consent that we do not have any comments.

Very truly yours,

Ministry of Transport, Communications, Housing, and Construction.