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PROJECT PERFORMANCE ASSESSMENT REPORT

**LAO PEOPLE'S DEMOCRATIC REPUBLIC
PROVINCIAL INFRASTRUCTURE PROJECT
(CREDIT 3131)**

June 10, 2011

IEG Public Sector Evaluation
Independent Evaluation Group

Currency Equivalents (annual averages)

Currency Unit = Laotian Kip

1998	US\$1.00	Kip 3,298
1999	US\$1.00	Kip 7,102
2000	US\$1.00	Kip 7,888
2001	US\$1.00	Kip 8,955
2002	US\$1.00	Kip 10,056
2003	US\$1.00	Kip 10,569
2004	US\$1.00	Kip 10,585
2005	US\$1.00	Kip 10,655
2006	US\$1.00	Kip 10,160
2007	US\$1.00	Kip 9,603
2008	US\$1.00	Kip 8,744
2009	US\$1.00	Kip 8,393

Abbreviations and Acronyms

ASEAN	Association of South-East Asian Nations
CAS	Country Assistance Strategy
DCA	Development Credit Agreement
ERR	Economic Rate of Return
GOL	Government of the Lao PDR
ICR	Implementation Completion Report
IEG	Independent Evaluation Group
Lao PDR	Lao People's Democratic Republic
M&E	Monitoring and Evaluation
MPH	Ministry of Public Health
MPWT	Ministry of Public Works and Transport
NAMPAPA	(MPWT) Water Supply Enterprise (for urban areas)
NAMSAAT	(MPH) Institute of Clean Water (for rural areas)
NEM	New Economic Mechanism
PAD	Project Appraisal Document
PPAR	Project Performance Assessment Report

Fiscal Year

Government: October 1 – September 30

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<p>This report was prepared by Roy Gilbert who assessed the project in November 2010. The Report was Peer and Panel Reviewed by Midori Makino and John Heath respectively. Maria Margarita Sanchez provided administrative support.</p>

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Principal Ratings

	<i>ICR*</i>	<i>ICR Review*</i>	<i>PPAR</i>
Outcome	Satisfactory	Moderately Satisfactory	Satisfactory
Risk to Development Outcome	Significant	High	Moderate
Bank Performance	Satisfactory	Moderately Satisfactory	Moderately Satisfactory
Borrower Performance	Satisfactory	Moderately Satisfactory	Satisfactory

* The Implementation Completion Report (ICR) is a self-evaluation by the responsible Bank department. The ICR Review is an intermediate IEG product that seeks to independently verify the findings of the ICR.

Key Staff Responsible

<i>Project</i>	<i>Task Manager/Leader</i>	<i>Division Chief/ Sector Director</i>	<i>Country Director</i>
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IEG Mission: Improving development results through excellence in evaluation.
About this Report

The Independent Evaluation Group assesses the programs and activities of the World Bank Group for two purposes: first, to ensure the integrity of the Bank's self-evaluation process and to verify that the Bank's work is producing the expected results, and second, to help develop improved directions, policies, and procedures through the dissemination of lessons drawn from experience. As part of this work, IEG annually assesses 20-25 percent of the World Bank's lending operations through field work. In selecting operations for assessment, preference is given to those that are innovative, large, or complex; those that are relevant to upcoming studies or country evaluations; those for which Executive Directors or Bank management have requested assessments; and those that are likely to generate important lessons.

To prepare a Project Performance Assessment Report (PPAR), IEG staff examine project files and other documents, visit the borrowing country to discuss the operation with the government, and other in-country stakeholders, and interview Bank staff and other donor agency staff both at headquarters and in local offices as appropriate.

Each PPAR is subject to internal IEG peer review, Panel review, and management approval. Once cleared internally, the PPAR is commented on by the responsible Bank department. The PPAR is also sent to the borrower for review. IEG incorporates both Bank and borrower comments as appropriate, and the borrowers' comments are attached to the document that is sent to the Bank's Board of Executive Directors. After an assessment report has been sent to the Board, it is disclosed to the public.

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Outcome: The extent to which the operation's major relevant objectives were achieved, or are expected to be achieved, efficiently. The rating has three dimensions: relevance, efficacy, and efficiency. *Relevance* includes relevance of objectives and relevance of design. Relevance of objectives is the extent to which the project's objectives are consistent with the country's current development priorities and with current Bank country and sectoral assistance strategies and corporate goals (expressed in Poverty Reduction Strategy Papers, Country Assistance Strategies, Sector Strategy Papers, Operational Policies). Relevance of design is the extent to which the project's design is consistent with the stated objectives. *Efficacy* is the extent to which the project's objectives were achieved, or are expected to be achieved, taking into account their relative importance. *Efficiency* is the extent to which the project achieved, or is expected to achieve, a return higher than the opportunity cost of capital and benefits at least cost compared to alternatives. The efficiency dimension generally is not applied to development policy operations. *Possible ratings for Outcome:* Highly Satisfactory, Satisfactory, Moderately Satisfactory, Moderately Unsatisfactory, Unsatisfactory, Highly Unsatisfactory.

Risk to Development Outcome: The risk, at the time of evaluation, that development outcomes (or expected outcomes) will not be maintained (or realized). *Possible ratings for Risk to Development Outcome:* High, Significant, Moderate, Negligible to Low, Not Evaluable.

Bank Performance: The extent to which services provided by the Bank ensured quality at entry of the operation and supported effective implementation through appropriate supervision (including ensuring adequate transition arrangements for regular operation of supported activities after loan/credit closing, toward the achievement of development outcomes. The rating has two dimensions: quality at entry and quality of supervision. *Possible ratings for Bank Performance:* Highly Satisfactory, Satisfactory, Moderately Satisfactory, Moderately Unsatisfactory, Unsatisfactory, Highly Unsatisfactory.

Borrower Performance: The extent to which the borrower (including the government and implementing agency or agencies) ensured quality of preparation and implementation, and complied with covenants and agreements, toward the achievement of development outcomes. The rating has two dimensions: government performance and implementing agency(ies) performance. *Possible ratings for Borrower Performance:* Highly Satisfactory, Satisfactory, Moderately Satisfactory, Moderately Unsatisfactory, Unsatisfactory, Highly Unsatisfactory.

Preface

This is the Project Performance Assessment Report (PPAR) of the Lao People's Democratic Republic (PDR) Provincial Development Project (Cr3131) for which the World Bank approved a Credit of US\$27.8 million on September 22, 1998. The Credit was 98.4 percent disbursed. An amount of US\$493,816 was cancelled and the Credit closed on June 30, 2007, seven months later than planned.

The report is based on a review of project documents, including the Implementation Completion Report, the Project Appraisal Document, legal documents and project files, and on discussions held with Bank staff involved in the project in Washington DC, and Vientiane. An IEG mission visited the Lao PDR in November 2010 to review project results and met with more than 20 interlocutors, including Lao PDR officials and representatives of the project provinces of Oudomxay and Phongsaly. The mission conducted field visits to project sites in Oudomxay, where it met with many project beneficiaries. As the mission schedule did not include a visit to Phongsaly, a team of officials from that province kindly agreed to travel to Oudomxay to meet with IEG. IEG gratefully acknowledges the courtesies and attention of all these participants, and their keen interest in the project evaluation process.

IEG selected this operation for a PPAR field assessment to verify its results three years after completion. This project evaluation will also serve as an input into IEG's ongoing review of infrastructure sustainability worldwide.

Following standard IEG procedures, copies of the draft PPAR were sent to government officials and agencies for their review and comments. Comments are included as Annex B.

Summary

The story of the performance of the Lao People's Democratic Republic (PDR) Provincial Infrastructure Project is a story of how the country's two poorest and most remote provinces became linked to Southeast Asia's rapid economic development during the decade-long project implementation period (1998-2007).

The project provinces of Oudomxay and Phongsaly are the Lao PDRs' most northerly, located some 400-500 km from the capital, Vientiane. Prior to the project, overland access to other parts of Laos from Phongsaly had to be through neighboring China. Integrating them nationally (and internationally) through roads investments would likely benefit their majority poor populations. This was not the first province-level Bank assistance to Laos. The project drew lessons of an earlier operation in the nearby Luang Namtha province, rated satisfactory by IEG.

The objective of this project, to help strengthen local institutions and upgrade infrastructure to reduce poverty and better integrate these provinces into the national economy, was substantially relevant to several priorities spelled out in successive Bank Country Assistance Strategies and Lao PDR policies up to and including the current 7th Socio-Economic Development Plan 2011-2015. Bank and Lao PDR priorities included: making local institutions more effective partners in development; integrating remote mountainous provinces; and reducing inter-regional disparities of income and development. The project design, too, was substantially relevant for including interventions—on-the-job training, improvements and better maintenance of roads, urban and rural water supply—in the country's poorest and most remote provinces likely to lead to the desired outcomes through the results chain.

Implementation was timely, impressively so given the wide geographical spread of project interventions across remote provinces working with the Bank the first time on infrastructure. Actual disbursements matched planned disbursements quite closely. The Bank's reputation for strict enforcement of its procurement and disbursement rules set the standards expected of work delegated to the provinces in these areas. Both provinces made excellent progress in managing sub-project planning, supervision and financing.

For roads, physical targets of kilometers to upgrade or rehabilitate were met or exceeded, and, for the most part, project investments stayed within budget. Eliminating unnecessary investments through carefully re-surveying real needs helped contain rising costs. In other words, implementation was efficient. Two smaller transport investments by this project, the Boun Neua airfield and the cable ferry crossing of the Nam Pak River were implemented on time, albeit with minor cost overruns. Urban water supply systems were built in the towns of Muang Xay (Oudomxay) and Muang Khoua (Phongsaly) below expected costs. Small-scale water supply and sanitation works were carried out in 78 villages in Oudomxay and 76 villages in Phongsaly. Most of the project's US\$1.2 million for Institutional Strengthening (for both provinces) was spent on formal training courses for provincial staff. The formal training delivered, through 143 courses for 1,930 local officials, was on a much larger scale than planned. But most training took place on-the-

job, while provincial staff helped implement the project. Regular project accounting did not capture the costs and benefits of this learning by doing.

The project helped strengthen local institutional capacity in three areas. First, hands-on project implementation experience enabled both provinces to take on greater responsibilities for the procurement and the maintenance of infrastructure, as well as related financial management. Second, they could apply these project-acquired capabilities to their own much larger investment operations—expanding fivefold during the project in Phongsaly—made possible by much stronger provincial finances driven by increased own-revenues and transfers from central government. Third, IEG learned that greater professional skills in these areas enhanced the self-esteem of technical staff.

Results were substantial. Thanks in part to this operation, both Oudomxay and Phongsaly provinces are now better endowed with infrastructure than they were before the project. Oudomxay's paved highway network is now twice what it had been before the operation, and Phongsaly's is four times as extensive. The project's 314 kms of improved roads account for 63 percent of the present highway network of both provinces. These improvements assured year-round access and cut average journey times by between 50-75 percent, as the project intended. Road maintenance was carried out effectively through performance-based contracts between the provinces and private operators. Phongsaly's airfield was improved as planned in late 2002, and regular air services by small airplanes began, but were interrupted when the aircraft were withdrawn. At present, there is no service. The cable river crossing was implemented and is now operational. Urban water supply to the towns of Muang Xay and Muang Khoua was upgraded by introducing treatment, expanding the distribution network to 4,350 more households, some 16 percent of the urban population. It also reduced unaccounted-for water by introducing consumer metering. Rural water supply benefited more than 8,000 households in 154 villages, about 15 percent of the rural population, with safe water at public standpipes.

As a share of all households, poverty fell more sharply during project implementation (1998-2007) in the project provinces than in the Lao PDR as a whole. In Oudomxay it fell from 66.1 percent to 25.0 percent and in Phongsaly it fell from 57.9 percent to 22.0 percent; while for the Lao PDR as a whole, the fall was from 39.1 percent to 26.0 percent. While there were no specific data on the income levels of project beneficiaries, IEG met many households benefiting from the project who had escaped poverty through rising incomes. The improved roads allowed low-income farmers for the first time to get their products to distant markets—in China and Vietnam, especially.

Over the same period, provincial GDP per capita in both provinces rose at a similar rate to the national average, pointing to the integration of the provinces within the national economy. Also, Laos' international trade through the provinces with neighboring Thailand, China and Vietnam grew rapidly, faster than the average national rate in the case of Vietnam. By linking producers and suppliers to neighbors' rapidly expanding markets, especially in China, improved project roads made this growth in trade possible.

The overall outcome of the project is rated **Satisfactory**, through achieving its substantially relevant objective with only minor shortcomings, thanks to a substantially relevant project design that incorporated actions and interventions that linked to

outcomes through a results chain. With results obtained across the board—stronger local institutions, upgraded infrastructure, reduced poverty and greater economic integration—efficacy was substantial. While IEG could not definitively link the project’s outputs to poverty reduction, poverty in the two provinces did decline substantially and it is likely that the expanded road investments contributed. Efficiency, too, was substantial with adequate economic rates of return (ERR) from most of the project investments. The ERRs might have been higher if agricultural value added made possible by the better road access was counted as a benefit instead of the savings of vehicle operating costs and travel time conventionally used in this case. The risk to development outcome is rated **Moderate**. Project benefits were still flowing at the time of the PPAR mission three years after completion, and are likely to continue into the future, thanks to the well-built and maintained infrastructure, strong provincial finances and the start up of cost recovery. Overall, Bank performance is rated **Moderately Satisfactory**. While the Bank created a realistic design and provided diligent and regular supervision in remote parts of the country, it did not ensure a strong enough results framework and M&E system. Borrower performance is rated **Satisfactory**, both for the Government’s support and for the efficiency with which the provinces implemented the project. M&E is rated **Modest**, with a weak design that did not specify performance indicators and targets for all the results.

LESSONS

- Within a broader national and international context of buoyant economic growth, new and upgraded infrastructure can help integrate poorer remote areas of a country and contribute to poverty reduction. The improved road infrastructure gave the beneficiary provinces better access, allowing them to keep pace with South-East Asia’s rapid economic growth and contributing to their fast pace of poverty reduction.
- Infrastructure that foments economic growth can also trigger unexpected demands for the infrastructure itself. This requires continuous monitoring to identify problems and inform appropriate responses. In the case of this project, the success of economic integration means that the roads are carrying much heavier trucks than they were designed for. More intense maintenance, strengthening the pavement or restricting vehicle weights are among possible responses. The chosen response has to be within local financial and management capacity constraints.
- On-the-job training prepares local officials and professional cadres to carry on the work of development assistance after a project has closed. It could be eligible for project funding. Formal training programs and courses have roles to play, too, but project design and implementation should ensure that the learning from them is relevant to achieving an operation’s intended outcomes.

Vinod Thomas
Director-General
Evaluation

1. Background to Support for Laos' Remote Provinces

1.1 In upgrading basic infrastructure, the Lao People's Democratic Republic (PDR) Provincial Infrastructure Project reviewed here aimed to link what were two of the Lao PDRs' poorest and most remote provinces, Oudomxay and Phongsaly, to the dynamic economic growth of Laos itself and to neighboring South East Asian countries. Laos' annual GDP growth averaged 6.5 percent during the 1998-2007 implementation period of the project. China's and Vietnam's growth rates were even higher at 10.0 percent and 7.2 percent respectively. Prior to the project in 1998, Laos' GDP per capita was only US\$247. By 2009, it had risen to US\$940, but still a measure of a low-income country.

1.2 Like most donor assistance to Laos since the mid-1990s, this project supported the country's modest pro-market reforms adopted by the Lao People's Revolutionary Party in 1986. The path to reform has not been an easy one, though. Its pace has not always met international expectations (Phraxayavong 2009 p. 260). Up to 2000, very high inflation meant volatile markets and foreign exchange rates—one US dollar was worth Kip 2,100 in 1998 and then Kip 10,655 in 2005. Construction costs rose rapidly. Corruption is still perceived as a major challenge, with Laos ranked 158 out of 180 countries surveyed by Transparency International in 2009, alongside the Central African Republic and Tajikistan.

1.3 The project provinces of Oudomxay and Phongsaly are the Lao PDRs' most northerly, located some 400-500 km from the capital Vientiane (Annex C). More than from distance alone, remoteness came from their poor infrastructure. The small populations, currently Oudomxay's 283,969 and Phongsaly's 166,635, and their location outside Laos' "lifeline" of the southern Mekong valley where most of Laos' 6.8 million inhabitants live, underscore their remoteness (Rehbein 2007). But Oudomxay and Phongsaly border dynamic zones like China's Yunnan Province and northern Vietnam, with whom trade increased more than fivefold over the project period.

1.4 The project focused upon improving the inadequate infrastructure of these two provinces where poor roads left them inaccessible for half the year during the rainy season. Inadequate water supply put public health at risk in both the towns and rural areas. The poor in particular suffered most from these shortcomings. Surveys in Laos show people in the lowest two quintiles of the income distribution are the least served by the country's weak infrastructure. If Oudomxay and Phongsaly did not participate in Laos' economic growth their poor populations would remain poor. In the prior (1993-2002) Laos Luang Namtha Provincial Development Project (Cr.2579), rated Satisfactory by IEG, the Bank had a model to emulate and a source of experience to draw from.

2. Project's Relevance to this Support

2.1 **Relevance of objective: Substantial.** The project's single objective (Box 1), expressed identically in both the project appraisal document (PAD) and development credit agreement (DCA) is substantially relevant to Lao PDR and Bank priorities and policies in several respects. Aiming for a stronger local institutional capacity was consistent with

successive country assistance strategies' (CAS) calls to make local institutions more effective partners in development (1996 CAS and 2005 CAS—the current document). The same is true of the project aim to upgrade basic infrastructure, particularly to help integrate remote mountainous areas of the country whose development is a Lao PDR government (GOL) priority. Reducing poverty and improving the standard of living and socio-economic potential of the poor are consistent with the poverty focus of GOL's current 7th Socio-Economic Development Plan 2011-2015. The project's aim of integrating the two provinces into the national economy relates directly to the 2005 CAS's priorities for helping to reduce inter-regional disparities of development and access to employment opportunities as well as social services (Figure 1).

Box 1. Laos Provincial Infrastructure Project – Design Summary

OBJECTIVE	COMPONENTS
<p>To assist the Borrower to strengthen the local institutional capacity and rehabilitate and upgrade critical basic infrastructure of its remote northern Provinces of Oudomxay and Phongsaly, so as to reduce the poverty conditions and improve the standard of living and socio-economic potential of the poor inhabitants of these provinces and gradually integrate them into the Borrower's national economy.</p>	<p><u>Province of Oudomxay</u></p> <ol style="list-style-type: none"> 1. Transport Access: rehabilitation of 191 km of roads, including a program of road emergency spot improvements and training of transport engineers (appraisal cost US\$12.9m.; final cost US\$12.2m.) 2. Township Water Supply in Muang Xay: upgrading, installation of a water treatment plant and extension of local utility office, as well as technical assistance. (appraisal cost US\$2.2m.; final cost US\$1.9m.) 3. Rural Water Supply: provision of latrine, sanitation and washing facilities by local community groups. (appraisal cost US\$1.1m.; final cost US\$1.1m.). 4. Institutional Strengthening: provincial government capacity to budget, manage, implement, monitor and evaluate provincial investments, through consultants' services, workshops, scholarships and training. (appraisal cost US\$0.8m.; final cost US\$0.7m.)
	<p><u>Province of Phongsaly</u></p> <ol style="list-style-type: none"> 1. Transport Access: rehabilitation of 88 km of roads; an airfield with access road; a cable river crossing; and a program of road emergency spot improvements. (appraisal cost US\$9.0m.; final cost US\$11.0m.) 2. Township Water Supply in Muang Khoua: upgrading, installation of a water treatment plant and extension of local utility office, and technical assistance. (appraisal cost 1.3m.; final cost US\$1.2m.) 3. Rural Water Supply: provision of latrine, sanitation and washing facilities by local community groups. (appraisal cost US\$2.4m.; final cost US\$0.8m.) 4. Institutional Strengthening: provincial government capacity to budget, manage, implement, monitor and evaluate provincial investments, through consultants' services, workshops, scholarships and training (appraisal cost US\$0.3m.; final cost US\$0.5m.)

Sources: Objectives and project description from both PAD and DCA. Cost data from Oudomxay and Phongsaly Provinces. Note: neither the PAD nor the ICR provided a complete breakdown of costs by province. The province-level data reported here were collected by the IEG mission.



Figure 1. Off to school along the project road

2.2 **Relevance of design: Substantial.** Seven features of the design enabled the project to achieve its intended objectives. *First*, it incorporated a results chain laying a progression from shorter-term results to longer-term outcomes—from upgraded infrastructure to regional integration, for instance. *Second*, the project design included on-the-job learning for the professional staff of the provinces as, for the first time, they became fully responsible for procuring, contracting, financing and implementing large construction works in accordance with Bank standards. This helped achieve the institutional capacity objective, as it had done in the earlier Luang Namtha Provincial Development Project. *Third*, when preparation was completed, the project scope was restricted to just two provinces, making implementation manageable.¹ *Fourth*, it selected the country's most remote provinces, where project infrastructure would help those most in need of integration into rapid national (as well as international) development. *Fifth*, the design focused on two sub-sectors of infrastructure only, namely transport and water supply, particularly needy in these provinces. *Sixth*, the design also addressed sustainability in each sub-sector; through maintenance arrangements for roads and through cost recovery for water. *Seventh*, the population of the chosen project provinces included a large share of poor people; those sections of the population typically deprived of infrastructure services.

¹ Earlier in project preparation, the Bank had proposed working in four provinces, Oudomxay and Phongsaly plus Huaphanh and Xayabury. Concerned that this might stretch project interventions too far and thin, GOL urged that only two provinces be included. The Bank subsequently agreed to that. Laos' more developed southern provinces were not considered as, by definition, they were already more integrated.



Figure 2. Village meeting to discuss the project (with hygiene posters in background)

2.3 If there were shortcomings to the project design, they were only minor. IEG heard from GOL officials, for instance, that the project should have been larger to have a greater impact—evidently, they wanted more! But whether enough capacity existed to execute a larger scale operation than the one agreed must be in doubt. Phongsaly province was so remote and inaccessible for several other donors that they decided not to initiate any programs there, fearing that they would not be cost-effective to supervise. But the experience of this project proved them wrong.²

3. Project Implementation Experience

3.1 Project implementation kept pace with the planned schedule, quite an achievement for an operation spread over such a large geographical area in provinces without prior experience of working with the Bank. Throughout implementation actual credit disbursements matched planned disbursements quite closely. Even so, the closing date of the credit had to be extended by seven months in order to fully disburse a US\$1.0 million remainder of the credit.

² Phongsaly's past inaccessibility, requiring day-long boat trips up the Nam Ou River, for instance, or a diversion through Chinese territory by road, is legend even among Bank staff and consultants.



Figure 3. Maize Cultivation—more after the project road improvement

3.2 Implementing the project required an unprecedented level of sub-project planning, supervision and financing by the provinces, neither of which had implemented a Bank-financed project before. Both made excellent progress.

3.3 During site visits along more than 75 kms of road in Oudomxay, IEG saw project works completed to a high standard. Officials from Phongsaly informed the IEG mission—with photographic back-ups—that the quality of the construction had been good and that other roads not visited by IEG were in good condition, too. At implementation completion, key physical output targets had been met or exceeded. In Oudomxay, 198 kms of the Muang Xay to Pak Beng road had been upgraded, 7 kms more than targeted. In Phongsaly, 83.5 kms of the R-19 road had been upgraded, 1.5 kms more than planned. All other road sections upgraded were the same lengths as planned. Altogether, the project made improvements to more than 63 percent of the two provinces' main highways. There was no reported shortfall.

3.4 As well as sticking to schedule, the project kept to its budget for the most part during implementation. Overall, final project costs (in US dollars) were close to the appraisal estimates (Table 3.1). Devaluations of the Kip helped stem rising construction costs in US dollars. Project implementation saw a creative technical response to rising costs. In Oudomxay the earliest road works had seen sharp price rises and cost overruns, prompting provincial engineers to thoroughly re-survey existing road conditions to be sure that full rehabilitation was really necessary. If not, it was eliminated. These actions kept actual costs below those expected in Oudomxay—even with a 3 percent increase in kilometers of road

improved. In Phongsaly, which did not adopt this approach, road cost overruns were 22 percent—with just 1.2 percent more kilometers of road improved than planned.



Figure 4. Heavy truck transporting maize to neighboring China

3.5 Two other transport investments in Phongsaly were implemented on time, with only minor cost overruns. The project successfully upgraded the Boun Neua airfield by extending and paving the runway and building an access road. But, at this writing, the ready-for-operation airfield is not working because of the lack of aircraft to operate from it, issues discussed in the next chapter of this report. The cable river crossing of the Nam Ou River, not visited by IEG, was also implemented as planned and is operational, according to reports by Phongsaly officials who met with the IEG mission in Oudomxay.

3.6 Urban water supply systems were implemented in the towns of Muang Xay (Oudomxay) and Muang Khoua (Phongsaly) as planned and at below expected costs. Small-scale water supply and sanitation works were carried out in 78 villages in Oudomxay and in 76 in Phongsaly, according to the ICR. The IEG mission did not visit all of these locations. The investments typically included a small water intake and collection point built around a stream up-hill, a pipeline was installed to carry the water down to the village, and a small number of public standpipes. The sanitation typically consisted of individual sheltered pit latrines—in use by villagers, as IEG saw during its field visits. Those villagers (and local officials too) told the IEG mission that beneficiaries had participated in the design of their own water supply and sanitation systems. They said that helping determine the location of

the standpipes and latrines, as well as the water catchment points, gave them a stake in the investments. The final scale of implementation was similar in both provinces.

Table 3-1. Implementing the Lao PDR Provincial Infrastructure Project

<i>Oudomxay Province</i>			<i>Phongsaly Province</i>			<i>TOTAL (both provinces)</i>	
<i>Component:</i>	<i>Costs in US\$m.</i>		<i>Component:</i>	<i>Costs in US\$m.</i>		<i>Costs in US\$m.</i>	
	<i>planned</i>	<i>final</i>		<i>planned</i>	<i>final</i>	<i>planned</i>	<i>final</i>
Transport Access							
Muang Xay – Pak Beng road	7.7	7.4	Oudomxay border to Muang Khoua	2.8	3.6		
Muang Xay – Phongsaly border road	2.1	2.9	R-19 Boun Neua to B Pakha	1.1	2.8		
Spot Improvements	0.2	0.2	Airfield at Boun Neua	1.0	1.3		
Engineers' training	2.7	1.4	Cable river crossing	0.2	0.3		
Other	0.2	0.3	Road maintenance equipment	0.6	0.9		
			Technical assistance	2.8	1.1		
			Other	0.5	1.0		
Transport access sub-total:	12.9	12.2		9.0	11.0	21.9	23.2
Township Water Supply							
Muang Xay water network	1.9	1.4	Muang Khoua water network	0.8	0.8		
Technical assistance	0.2	0.3	Technical assistance	0.4	0.1		
Other	0.1	0.2	Other	0.1	0.3		
Township water supply sub-total:	2.2	1.9		1.3	1.2	3.5	3.1
Rural Water Supply/Sanitation							
Rural water supply and sanitation	1.1	1.1	Rural water supply and sanitation	2.4	0.8		
Rural water supply/sanitation sub-total:	1.1	1.1		2.4	0.8	3.5	1.9
Institutional Strengthening							
Operating costs and training	0.8	0.7	Operating costs and training	0.3	0.5		
Institutional strengthening sub-total:	0.8	0.7		0.3	0.5	1.1	1.2
GRAND TOTAL:	17.0	15.9		13.0	13.5	30.4	30.1

Sources: Oudomxay and Phongsaly Provinces.

3.7 Most of the project's US\$1.2 million for Institutional Strengthening (for both provinces) was spent on training provincial staff through formal courses on accounting, procurement and project management. Most courses were held in the provinces themselves, but a few were given in Luang Prabang and Vientiane. Additional training effort under the roads component focused upon procurement, spending US\$1.4 million to ensure that provincial engineers were well prepared to manage it locally. Some of the training was given in neighboring countries, notably Malaysia, where eight trainees even received bachelors'

degrees. But most training of all was on-the-job, as provincial staff helped implement the project, even though project accounting did not capture it as such.

4. Results Achieved

4.1 The efficacy of the project in achieving its objective to strengthen local institutional capacity and rehabilitate and upgrade basic infrastructure so as to reduce poverty and improve the standard of living and socioeconomic potential of poor inhabitants of Oudomxay and Phongsaly provinces and gradually integrate them into the national economy is rated *substantial*.

STRENGTHENING LOCAL INSTITUTIONAL CAPACITY

4.2 Evidence points to important changes in three areas: stronger provincial finance, greater provincial responsibilities and better quality human resources. Looking beyond the project's chosen performance indicator, the number of staff trained, shows that the governance and management of both provinces is stronger at the present time than it was prior to the project in 1998. This section reviews how the improvements observed can be attributed to the project interventions.

Table 4-1. Participating Provinces' Finances Grew Rapidly (in millions of 2009 Kip)

	Population (number)		Provincial revenues				Provincial expenditures			
			Local		Transfers		Infrastructure		Other	
	1999	2009	1998/99*	2008/09	1998/99*	2008/09	1998/99*	2008/09	1998/99*	2008/09
Oudomxay	211,847	283,969	13,212	22,690	19,453	107,179	63,982	70,320	36,577	32,034
Phongsaly	157,495	166,635	5,376	18,500	10,240	72,832	8,634	39,946	6,981	51,385

Sources: Oudomxay Department of Planning and Investment. Phongsaly Department of Industry and Trade

Note: *1998/99 financial data converted to 2009 prices via the 1999-2009 GDP deflator for Laos reported as 256 percent by the World Development Indicators.

4.3 **Stronger Provincial Finances:** Phongsaly's own revenues grew more than threefold during the implementation of the project, almost reaching the level of the much larger Oudomxay province (Table 4.1). Most of this increase came from five to sevenfold hikes in GOL transfers—obviously not the direct result of the project itself. More closely indicating the provinces' greater financial capacity and management were the sharp increases that both experienced in generating their own local revenues. Just to properly control a three to four times larger fiscal space in 2008/09 than in 1998/99—on both the revenue and expenditure sides—required both provinces to step up to the plate to expand and deepen their financial management capabilities. IEG learned of no financial mis-management that would have pointed to shortcomings in local institutional capacity in this regard. Much greater project infrastructure assets themselves required more costly operations and maintenance, something that itself may itself have spurred the search for greater provincial revenue. On the

expenditure side, Phongsaly's infrastructure spending was nearly five times greater after the project than before—a direct result of the project's US\$2.0 million annual investments there. Oudomxay, a bigger spender prior to the project, saw a smaller increase in investment spending. Executing the project during 1998-2007 helped prepare both provinces meet the greater responsibilities they acquired thereafter.

4.4 ***Greater Provincial Responsibilities:*** From having been among the weakest provinces of the Lao PDR, Oudomxay and Phongsaly excelled in assuming far greater responsibilities for managing their own development and infrastructure needs under the project. GOL ministries in Vientiane delegated more and more tasks to the country's provinces. Greater provincial responsibilities meant that Oudomxay and Phongsaly staff had to manage procurement, disbursement and maintenance, formerly carried out in Vientiane. It did not amount to a full decentralization, however, since hierarchical line reporting to central ministries from their delegated staff in the provinces continued.

4.5 Oudomxay directly managed, for the first time under Bank rules, the procurement of more than 20 works contracts—eight of them over one million US dollars each—and ten technical assistance and training operations. The province dealt with all aspects, from the detailed planning and programming of the jobs, financial planning and budgeting, calling for bids, and adjudicating winners. Officials from Phongsaly—not visited by IEG—reported similar experiences to the IEG mission. The project itself supported these new provincial activities through technical assistance by visiting procurement advisors, courses and opportunities for on-the-job learning coming directly from the hands-on practice.

4.6 Implementing the project gave both provinces unprecedented opportunities for broader and more intense financial management. Phongsaly, especially, had to manage a much larger budget than before. Both provinces had to assess and approve disbursements on a larger scale than anything done prior to the project. During its mission, IEG found both provinces ready and able to analyze and provide data on their own finances and on project transactions. Triangulation, double checking data from different perspectives, showed province-provided information to be fairly consistent with that from other sources, such as Bank reports. Using the provinces' own data IEG was able to evaluate this project at the province level for the first time.

4.7 The project's new upgraded infrastructure required the provinces to assume responsibility for operation and maintenance on a much bigger scale than before. For the first time both provinces engaged private firms to carry out road maintenance through competitively bid performance-based contracts. The project reviewed here provided important opportunities to use this innovative instrument introduced through the later Bank-financed Lao PDR Road Maintenance Project (P064821). Oudomxay and Phongsaly officials spoke to the IEG mission very positively about their experiences with these contracts. The IEG mission could see good results on the ground through site visits to 75 km of upgraded roads that pointed to no failure of maintenance. Maintenance of the urban and rural water works obtained good results too, thanks to cost recovery from users. Local residents told the IEG mission that they paid their water tariffs regularly. Local officials said that these payments covered the operation and maintenance costs of the water systems, but were not enough to finance the investment costs incurred. IEG had no access to the detailed

documentation of these financial transactions, however. But, whatever the details, IEG could see that the systems inspected were in full operation.

4.8 Greater provincial responsibilities and capabilities had the important, yet unforeseen consequence of enhancing the self-esteem of local staff in Oudomxay and Phongsaly. They told IEG how they now treated visiting project consultants on an equal professional footing and themselves. Before, they saw them as purveyors of instructions from the center to be blindly followed—a major paradigm shift for them.

4.9 **Provincial Human Resources:** The project provided considerably more training for provincial officials than initially planned. But these numbers can measure inputs, not project outcomes or impacts. These would be better measured through evidence of the application of that training to increase the effectiveness and efficiency of the institution to which the trainees belonged. That said, through 143 courses the project trained 1,930 local officials—707 from Oudomxay and 1,223 from Phongsaly—ten times the number targeted.³ To better know the *outcome* of this, however, we need to learn more about what the trainees learned and how they are using their new knowledge in practice. In the absence of formal survey data on this, the IEG mission heard from former trainees. All confirmed that they found the training relevant and useful to their present job (to which they returned after the training). Senior staff found English language skills they acquired through training in Malaysia to be particularly useful—important in aid-dependent Laos. The IEG mission itself benefited from this. Several provincial staff told IEG that they had been promoted since the training. Provincial officials responsible for the training told IEG that they expected trainees to return to their jobs and apply their new knowledge to their work. IEG did not find specific data on the retention of trained staff, but noted that there was a strong motive for a trainee to stay at his or her provincial post: the guarantee of lifetime employment.

REHABILITATING AND UPGRADING INFRASTRUCTURE

4.10 With the help of this operation, both Oudomxay and Phongsaly provinces are now better endowed with infrastructure than they were before the project (Table 4.2).

4.11 **Road Upgrades:** Oudomxay now has nearly twice the paved highway length—overall and not just the project’s—than before the project. Phongsaly, with very little paved highway prior to the project, saw a fourfold increase (Table 4.2). The project impact on this result was significant. The project’s 314 kms of improved roads (up from the 280 km planned) account for 63 percent of the present highway network in the two provinces. While overall traffic flows are still below design capacity, many individual 20-25 ton trucks impose an enormous strain upon a road pavement designed for a maximum load of 11 tons. During its field visits, IEG saw no evidence of major structural failure arising from this traffic. Growth of the economy and of trade, however, is likely to see an increase of this heavy traffic. Measures to restrict it are unlikely to succeed while ASEAN regulations call for the free movement of heavy vehicles across the countries of this region. In the medium term, the

³ These figures represent the total number of persons who enrolled in the training courses; some officials may have enrolled in more than one course. The number or share of local officials who enrolled in at least one course is unknown.

road pavement will have to be strengthened in order to accommodate the inevitable. This may be a more realistic approach than attempting to curtail overloaded vehicles (without adequate local capacity to control them) as recommended by the ICR (p. 24)

Table 4-2. Provincial Infrastructure Upgrades 1999-2007

	1999 - Baseline	2009 - Endline
OUDOMXAY PROVINCE		
Road transport access (<i>paved road – km</i>)	196	351
Traffic counts (<i>vehicles per day</i>)	192 _{a/}	260
Township water supply (<i>households served</i>)	20,885	28,886
Township water supply (<i>volume produced – m3</i>)	589,110	1,429,820
Township water supply (<i>volume sold – m3</i>)	581,007	1,112,166
Rural water supply/sanitation (<i>households served</i>)	Na	8,362
Rural water supply/sanitation (<i>villages served</i>)	Na	78 _{b/}
PHONGSALY PROVINCE		
Road transport access (<i>paved road - km</i>)	22	148
Traffic counts (<i>vehicles per day</i>)	35 _{a/}	52
Airfield (number of passengers per year)	Na	Na
Cable river crossing (number of vehicles/year)	-	5,475 _{c/}
Township water supply (<i>households served</i>)	1,180	5,264
Township water supply (<i>volume produced – m3</i>)	Na	Na
Township water supply (<i>volume sold – m3</i>)	86,908	400,464
Rural water supply/sanitation (<i>households served</i>)	11,580	12,540
Rural water supply/sanitation (<i>villages served</i>)	Na	76 _{b/}

Sources: Oudomxay Department of Public Works and Transport. Phongsaly Statistical Departments

Notes: # *a/* Data for 1997 from Royds (1997); *b/* Reported in the ICR (p. 29); *c/* Figure for 2006 reported by ICR—no update available to IEG.

4.12 Road Maintenance: As already noted under institutional strengthening, the project provided an opportunity for the provinces to apply the performance contract approach to road maintenance. Through these contracts, both provinces required continuous M&E of the roadway and preventative and corrective maintenance to keep it operational. Increasing costs of this contracting made the provinces keen users of the government's Laos Road Maintenance Fund (RMF), introduced by the Lao PDR Road Maintenance Project. Oudomxay Province officials told the IEG mission that they considered the RMF a

“masterpiece” of Bank assistance. They valued its rapid processing of requests for withdrawals and had been using it intensively since 2006 to fund contracts with two firms for maintenance covering the entire length of the improved roads.

4.13 *Air Transport Improvements:* The project did upgrade Phongsaly’s Boun Neua Airfield by paving and extending its runway to 900 meters, and building an access road, While this allowed Lao Air to begin a twice weekly flight from Vientiane using a twin engine 11 seat aircraft, the service was withdrawn shortly thereafter with the retirement of the aircraft for safety reasons. Lao Air did not have a replacement plane in its fleet, although IEG learned that the airline is seeking to procure additional aircraft.

4.14 *Other Transport - Cable river crossing:* Phongsaly officials told IEG that the cable river crossing—whereby a ferry boat is harnessed to an overhead cable to secure its passage across the strong currents of the 300 meter-wide Nam Ou River (and also save fuel), was well built and able to operate at full capacity of up to 3 tonnes of motor bikes, farm trucks, bicycles and passengers. This was to replace an earlier ferry that had been destroyed during the 1996 river flood. The Phongsaly officials produced photographs showing the operation, but data on the number of people and vehicles transported were not available.

4.15 *Urban Water Supply:* Directly as a result of the project, urban water supply coverage and volume produced doubled in Oudomxay and more than quadrupled in Phongsaly (Table 4.2). The water production plant and expanded distribution in the towns of both Muang Xay and Muang Khoua, but not to the extent intended. It expanded the distribution network to cover 4,350 households, some 16 percent of the urban population. It also reduced unaccounted-for water by introducing consumer metering for the first time. A poorly conceived water intake in Muang Khoua had to be re-designed for adequate production. Service quality was upgraded, too, through introducing chemical treatment for the first time in both provinces. IEG did not have access to time series data of water quality indicators that would definitely



Photo by Roy Gilbert

Figure 5. Using a water standpipe

demonstrate any improvement in water quality over the time of this project. Users told the IEG mission, however, that water quality had improved, citing its appearance (less turbid) and fewer cases of stomach ailments among their children that they attributed before the project to contaminated water.

4.16 Rural Water Supply: The project significantly upgraded local infrastructure by providing a safe water supply to more than 8,000 households in 154 rural villages, about 15 percent of the rural population (Table 4.2). IEG visited two such systems in the company of local officials and one without. In all three locations, residents confirmed that the road and water supply had changed their lives for the better. The road eased access to social services, particularly schools and health, and the water supply systems cut the time users spent collecting water, as per the performance indicator chosen by the project. Users willingly pay annually adjusted charges that cover the operating and maintenance costs of the systems. Although it did not involve major project expenditures, the operation also made important contributions through hygiene and sanitation awareness campaigns—washing hands, for instance. Evidence of them was clear from posters the IEG mission saw during its field visits (Figure 2) and from comments by villagers themselves. Data on health indicators at the village level that might be affected by these campaigns were not available.

REDUCING POVERTY

4.17 Poverty fell more sharply in both Oudomxay and Phongsaly provinces during the implementation of the project than it did in the Lao PDR as a whole. Both provinces now report a smaller share of households living below the poverty line than the national



Figure 6. Village pit latrine

average for that indicator—quite an achievement for provinces that had been among the Lao PDR’s poorest before the project⁴ (Table 4.3). That Oudomxay and Phongsaly reduced their

⁴ According to the LDR National Statistical Center, among Lao PDR provinces, Phongsaly and Oudomxay had the largest shares of their villages that were reckoned to be poor in 2003, 94.4 percent and 91.6 percent respectively, compared with a national average of 76.7 percent (World Bank 2004 p. 31). An earlier paper sponsored by the Asian Development Bank (ADB) indicates even higher levels of poverty for these provinces,

poverty at a faster than average rate calls for province-specific explanations for the results observed here. They include, of course, the project infrastructure that helped integrate these provincial economies into the 7-10 percent annual GDP growth of neighboring Vietnam and China, as well as of the Lao PDR's own 6.5 percent. Roads improved under the project permitted farmers to get their products to market, thereby allowing international trade through (and originating in) the provinces to take off. Exports of agricultural products, particularly of maize to China, were reported to have multiplied.⁵ During its field visits, the IEG mission could see new areas under maize cultivation along the roadsides (Figure 3). The mission also met with several farmers reporting how increased agricultural output had translated into higher incomes, the evidence of which was immediately obvious to a visitor in improvements to their village homes. Without the road access upgraded by this operation, these farmers would not have been able to get their produce to market—precisely the constraint they faced before the project when access was very difficult if not completely impossible for most of the year.

Table 4-3. Provinces' Poverty Declined Faster than Lao PDR's during the Project

	<i>Baseline 1998</i>	<i>Midline 2003</i>	<i>Endline 2009</i>
OUDOMXAY PROVINCE			
Households below the national poverty line (% of total)	66.1	45.1	*25.0
GDP per capita (current US\$)	**193	Na	661
PHONGSALY PROVINCE			
Households below the national poverty line (% of total)	57.9	50.8	22.0
GDP per capita (current US\$)	110	Na	433
LAO PDR			
Households below the national poverty line (% of total)	39.1	33.5	26.0
GDP per capita (current US\$)	247	378	940

Source: Baseline and Midline - Andersson et al. (2006). Endline – Oudomxay and Phongsaly Provinces and CIA World Factbook

Notes: * estimate based upon Oudomxay's report of 14,417 households in the province living below the poverty line, assuming 5 persons per household and a total 2009 population of 283,969 ** 1995 data (PAD p. 22)

4.18 During its field visit the IEG mission inquired about the existence of poverty reduction programs exclusively aimed at Oudomxay and Phongsaly provinces that may have accelerated poverty reduction there, but did not learn of any. Significantly, neither of two poverty reduction strategy papers (PRSP) prepared by the Bank during project

namely 73.2 percent for Oudomxay and 64.2 percent for Phongsaly in 1998, while a figure of 38.6 percent for the Lao PDR, similar to the value reported in Table 4.3 here (Kakwani 2001 p.9).

⁵ Already by 2004, just after the project's midterm, maize production accounted for 64 percent of the region's cash crop production, up from 44 percent in 2001 (Thongmanivong 2006).

implementation refers to the existence of such programs (World Bank 2004 and 2008), although there are references to small anti-opium production projects in Oudomxay and Phongsaly provinces⁶ (World Bank 2004 Table 3.7).

INTEGRATING THE PROVINCES INTO THE NATIONAL ECONOMY

4.19 There is no one indicator that can measure the integration of these provinces into the national economy that the project intended. This PPAR therefore looked elsewhere for evidence of this result. Economies, or parts of them that are integrated, can be expected to grow at a similar pace, as illustrated by the similar increases in GDP per capita in the provinces as in Laos as a whole (Table 4.3). The cases of Oudomxay and Phongsaly point to continuing integration with the national economy at a steady pace—no more, no less. Integration can also be measured by the provinces' participation in Laos' international trade (whose growth was made possible by the project's road improvement) with neighboring countries, namely Thailand, China and Vietnam. Expansion of trade with China and Vietnam was driven by the dynamic growth of those countries' economies. Data show that, after project completion in 2009, trade into and out of the provinces was much higher than before the project in 1999, but the Lao PDR's trade as a whole with these countries followed a similar pattern, pointing to the provinces' economies developing hand-in-hand with the national economy. There was one big difference. Oudomxay and Phongsaly exports to and

Table 4-4. Provinces' Participation in Laos International Trade (\$US millions)

Province	Imports from:			Exports to:		
	1996	1998	2009	1996	1998	2009
OUDOMXAY PROVINCE						
- Thailand	0.1	-	4.7	0.9	0.1	2.7
- China	0.8	0.2	2.3	0.5	0.2	8.1
- Vietnam	-	-	14.1	-	-	1.3
PHONGSALY PROVINCE						
- Thailand	-	-	-	0.2	-	-
- China	1.6	0.8	4.4	0.3	0.6	3.6
- Vietnam	-	0.2	1.4	-	0.1	0.6
LAO PDR						
- Thailand		364.3	1,642.6		30.4	462.7
- China		17.8	373.0		7.9	367.3
- Vietnam		47.9	248.5		240.1	169.3

Sources: 1996 data from ICR (pp. 23 and 32). 1998 and 2009 provincial data from Oudomxay and Phongsaly Provinces. Lao PDR data for all years from Lao PDR Statistical Yearbook.

⁶ Both provinces were officially declared to be free of opium in 2005 (World Bank 2008 p. 34).

imports from Vietnam grew much more rapidly than they did for the nation as whole. All roads upgraded by this project were sections of highways connecting the Lao PDR to the neighboring trading partners. During its field visit, the IEG mission saw this integration in action illustrated by the heavy commercial trucks exporting maize to China and Vietnam. It was also clear how Muang Xay, the capital of Oudomxay Province, had become an important entrepot where traders from neighboring countries sold their goods or engaged in other business in the town.

Table 4-5. Provinces' Participation in Laos International Trade (\$US millions)

Province	Imports from:			Exports to:		
	1996	1998	2009	1996	1998	2009
OUDOMXAY PROVINCE						
- Thailand	0.1	-	4.7	0.9	0.1	2.7
- China	0.8	0.2	2.3	0.5	0.2	8.1
- Vietnam	-	-	14.1	-	-	1.3
PHONGSALY PROVINCE						
- Thailand	-	-	-	0.2	-	-
- China	1.6	0.8	4.4	0.3	0.6	3.6
- Vietnam	-	0.2	1.4	-	0.1	0.6
LAO PDR						
- Thailand		364.3	1,642.6	30.4	462.7	
- China		17.8	373.0	7.9	367.3	
- Vietnam		47.9	248.5	240.1	169.3	

Sources: 1996 data from ICR (pp. 23 and 32). 1998 and 2009 provincial data from Oudomxay and Phongsaly Provinces. Lao PDR data for all years from Lao PDR Statistical Yearbook.

EFFICIENCY IN ACHIEVING RESULTS

4.20 The *efficiency* of the project road investments, that accounted for 77 percent of total project costs was mostly *substantial* as reflected in the completion estimates of economic rates of return (ERR) of were 9-61 percent for Oudomxay and 9-27 percent for Phongsaly (ICR p. 34). These are somewhat lower than the ERR estimates reported by the PAD of 20.7-62.3 percent for Oudomxay's and 14.4-15.9 percent for Phongsaly (PAD p. 54). Both completion and appraisal ERRs apply similar variables and parameters; benefits from savings in vehicle operating costs and travel time spent by passenger, from low baseline traffic counts (Table 4.2) projected to grow rapidly at 7-9 percent per annum. Both provinces reported 50-75 percent savings in journey times by road—the project's chosen performance indicator. IEG learned from several residents and drivers that travel times had been much longer prior to the improvements—some travel could not take place at all during rainy seasons that blocked road sections by flooding and/or landslides. Recent ERRs were lower than PAD estimates because actual traffic flows in 2009 were lower than appraisal projections; in Oudomxay, actual flows were 260 vehicles per day against 432 projected,

while in Phongsaly, actual flows were 52 vehicles per day against 79 projected. (Table 4.2). In spite of these lighter flows than expected, the trucks actually plying the project roads were twice as heavy as planned, meaning that they could carry as much produce as the projected larger flow of smaller vehicles. If instead of adopting the traditional focus of transport cost:benefit analysis of operating costs and time savings, the benefits of agricultural value-added made possible by the road had been assessed, they would likely yield higher rates of return than those reported by the ICR.

4.21 The *efficiency* of Phongsaly's airfield investment, that accounted for only 4.3 percent of the total project cost, has yet to be demonstrated. At this writing, there is no regular air service to Phongsaly and therefore no benefits yet accrue from the component. At appraisal it was expected to yield an economic rate of return of 9.0 percent, based upon 20 passengers per day using the facility and passenger traffic growing at 5 percent p.a. (PAD p. 57). The ICR candidly acknowledged (ICR p. 16) that it could not re-estimate an ERR. Even under the temporary operation during the 18 months after the airfield's completion when a 11-seater aircraft operated twice a week, maximum passenger flows were less than one-third of the appraisal scenario. IEG found expectations in the region and in Vientiane, however, that service would resume shortly. Lao Air may shortly acquire the necessary aircraft and GOL is investing in air transport expansion in the region, as plans for a new terminal building at the busier Oudomxay airport indicate.

4.22 The *efficiency* of the urban water supply was reflected in appraisal ERR estimates of 11.5 percent for Muang Xay and 10.3 percent in Muang Khoua (in Phongsaly). The principal benefits were measured by incremental water sales expected to grow at about 3.0 percent per annum, close to the projected at actual population growth over the 1999-2009 period. ERRs were not re-estimated at completion, however. The ICR reported that the systems were "in their early days" and that "it will be important to carry out a detailed economic re-evaluation once more data become available" (ICR p. 17). To date, the recommended re-evaluation (that IEG supports) has yet to be carried out. Whether the resulting project investments were more or less efficient than the appraisal ERRs indicate will depend upon reported cost savings (Table 3.1) being more or less than the reported shortfall of benefits.

5. Ratings

OUTCOME

5.1 ***Rated Satisfactory.*** The project achieved its substantially relevant objective with only minor shortcomings. Thanks to a substantially relevant design that incorporated infrastructure and institutional development components that were instrumental in achieving the project's objective, the operation obtained important results across all four aspects of the objective assessed by this PPAR. First, local institutional capacity in the provinces of Oudomxay and Phongsaly was substantially strengthened, as provincial finances and responsibilities increased and technical teams enhanced their professional skills of procurement and maintenance of infrastructure investments in particular. Second, the project substantially upgraded and rehabilitated provincial infrastructure, particularly roads that gave reliable year-round access for the first time. It also improved water supply with likely health benefits. Third, poverty reduction, underway in the Lao PDR as a whole, proceeded faster in

the provinces than the national average, according to provinces' own data, facilitated by improved access to markets. It was clear from IEG mission field visits that the poor were among the direct project beneficiaries. Fourth, through improving local roads providing better access to markets for agricultural produce especially, the project helped integrate these remote provinces into the national economy. This is well illustrated by the active international trade they practice with neighboring Thailand, China and Vietnam, trade that had barely existed prior to the project. IEG's observation of the use and condition of the roads—that account for 72 percent of project costs—as well as preliminary ERR estimates of investments in them point to substantial project efficiency. Other components may not have performed as well as expected—the Phongsaly airfield, for instance—or still await completion ERR estimates—such as rural water supply—but they do not carry sufficient weight to affect the overall efficiency rating of the project.

RISK TO DEVELOPMENT OUTCOME

5.2 ***Rated Moderate.*** Infrastructure improvements made by the project, particularly rehabilitating and upgrading the roads, are likely to continue to yield benefits into the future. The infrastructure was well built and remains resilient to the use by much heavier vehicles than it was designed for. Performance-based contracts with private operators have already assured reliable maintenance for a three-year period since completion, and that is likely to continue. Indeed, fielding the PPAR mission at this time allowed IEG to confirm the recent sustainability of the project investments. The much stronger provincial finances after the project guaranteed adequate resources to fund them. Also, provincial officials reported that cost recovery from users of rural water supply systems contributes to the sustainability of each one's service, although detailed village-level data on this were not available. IEG did hear from several beneficiaries that they willingly paid user fees for the service. Most important was that three years after completion, the infrastructure was functioning well.

BANK PERFORMANCE

5.3 ***Rated Satisfactory.*** ***Quality at entry*** is rated moderately satisfactory. The Bank teams used the successful experience of the prior Luang Nampa Provincial Development Project to design the new operation focused on a few infrastructure sub-sectors only. This was to keep the project manageable. IEG did not find the Bank's reported lack of attention to the provincial "skills gap" (ICR p. 20) to be a significant over-estimate of provincial capacity. On the other hand, the Bank's original plan had been to cover four northern provinces, a number reduced to two only, at the request of GOL. The project results framework and M&E design, however, fell short of what was needed to adequately monitor achievement of development objectives. ***Supervision*** was satisfactory with sufficient budget for regular missions to the project's remote and inaccessible parts of the country. With support from the Bank's Bangkok and Hanoi offices, Bank supervision missions provided contracting and construction advice highly appreciated by the local provincial teams, even from Bank water supply specialists who were in short supply for this project. Judging from the excellent Borrower implementation performance, the Bank addressed implementation issues promptly and effectively. Project implementation ratings were realistic. Overall Bank performance is rated **moderately satisfactory**. Had monitoring and evaluation (M&E) design and implementation been stronger, then Bank performance would have warranted a higher rating.

BORROWER PERFORMANCE

5.4 ***Rated Satisfactory. Government performance*** is rated satisfactory. The project benefited from full support by GOL and top authorities of the two provinces, notwithstanding the limited resources and staff that they were able to deploy at project startup. ***Implementing agency performance*** is rated satisfactory. Project management units under the provincial Departments of Water and Transport (DPWT) were diligent in implementing the project, acquiring much experience that contributed significantly to their institutional learning and consolidation. There has been further consolidation of provincial performance since the mid-2008 ICR. Thus the IEG mission could work closely with informed technical teams and develop a meaningful dialogue with them on project evaluation. IEG was also impressed by the positive and collaborative response of the teams in Oudomxay and Phongsaly in assembling project baseline and endline data in response to requests that IEG had made earlier from Washington. The provincial NAMSAAAT and NAMPAPA also worked very well in improving water supply, and correcting earlier design shortcomings of the investments. Overall Borrower performance is rated **satisfactory**.

MONITORING AND EVALUATION (M&E)

5.5 ***Rated: Modest.*** The quality of M&E design was less than needed to fully assess the impact of the project. Key aspects of the project objective had no related performance indicators at all, or indicators focused more upon inputs than outcomes. For measuring reducing poverty and the integration of the provinces into the national economy, there were no designated indicators. The M&E proposed counting the number of provincial staff trained to measure local institutional strengthening. But that training was an *input* into the strengthening, not a measure of its outcome. For that, M&E could have focused upon measures of greater institutional resources, responsibilities and capabilities. On the other hand, M&E used appropriate indicators to measure infrastructure upgrading, namely less time taken for road travel and for collecting water. Despite the design shortcomings, M&E implementation was carried out well by both provinces, and in doing so, it allowed them to develop their own considerable data collection and assembly capacity. The project had intended to build up such a capacity within the provinces that they did not have beforehand. While IEG was unable to gather evidence that M&E utilization provided feedback leading to provinces to change course during implementation, M&E was certainly used to provide data for project evaluation, including that used for this PPAR

6. Lessons

6.1 Within a broader national and international context of buoyant economic growth, new and upgraded infrastructure can help integrate poorer remote areas of a country and contribute to reduce their poverty. This project's improved road infrastructure gave the beneficiary provinces better access, allowing them to keep pace with South-East Asia's rapid economic growth, contributing poverty reduction.

6.2 Infrastructure that foments economic growth can also trigger unexpected demands for the infrastructure itself. This requires continuous monitoring to identify problems and inform appropriate responses. In the case of this project, the success of economic integration means

that the roads are carrying much heavier trucks than they were designed for. More intense maintenance, strengthening the pavement or restricting vehicle weights are among possible responses. The chosen response has to be within local financial and management capacity constraints.

6.3 On-the-job training prepares local officials and professional cadres to carry on the work of development assistance after a project has closed. It could be eligible for project funding. Formal training programs and courses have roles to play, too, but project design and implementation should ensure that the learning from them is relevant to achieving an operation's intended outcomes.

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Annex A. Basic Data Sheet

Lao PDR: Provincial Infrastructure Project (IDA-31310)

Key Project Data (amounts in US\$ million)

	<i>Appraisal estimate</i>	<i>Actual or current estimate</i>	<i>Actual as % of appraisal estimate</i>
Total project costs	31.1	30.2	97.0
Loan amount	27.8	27.9	100.6
Cofinancing	-	-	-
Cancellation	-	0.5	-

Cumulative Estimated and Actual Disbursements

	<i>FY99</i>	<i>FY00</i>	<i>FY01</i>	<i>FY02</i>	<i>FY03</i>	<i>FY04</i>	<i>FY05</i>	<i>FY06</i>	<i>FY07</i>
Appraisal estimate (US\$M)	0.9	1.7	6.3	10.9	15.6	20.2	23.1	27.8	27.8
Actual (US\$M)	0.9	1.7	6.1	10.4	15.2	20.1	24.1	26.9	27.9
Actual as % of appraisal	98.9	99.4	96.7	95.5	97.1	99.5	104.0	97.0	100.6
Date of final disbursement: December, 2007									

Project Dates

	<i>Original</i>	<i>Actual</i>
Concept Review	01/07/1997	01/07/1997
Board approval	09/22/1998	09/22/1998
Signing	12/21/1998	12/21/1998
Effectiveness	03/19/1999	03/19/1999
Closing date	11/30/2006	06/30/2007

Staff Inputs (staff weeks and cost)

		<i>Staff Weeks</i>	<i>USD Thousands (including travel and consultant costs)</i>
Lending			
	FY96		21.31
	FY97		129.77
	FY98		352.97
	FY99		28.32
	Total		532.37
Supervision/ICR			
	FY99		39.59
	FY00	24	94.10
	FY01	17	71.79
	FY02	23	91.10
	FY03	11	46.78
	FY04	6	42.94
	FY05	12	57.32
	FY06	11	52.40
	FY07	6	39.95
	FY08	7	39.27
	Total	117	575.24

Annex B. Borrower Comments

LAO PEOPLE'S DEMOCRATIC REPUBLIC
Peace Independence Democracy Unity Prosperity
Department of Public Works and Transport, Oudomxay Province
PROVINCIAL INFRASTRUCTURE PROJECT (IDA,Cr.No.3131-LA)

To: Roy T.Gilbert
Lead Evaluation Officer
Sector Thematic & Global Evaluation
1818 H Street,NW
Washington, DC 20433 USA
Tel: 202 473 3476
Fax: 202 522 3123

To: Mr Sombath Southivong
Sr.Infrastructure Specialist
World Bank Office,Vientiane,
Tel: 856-21 450010 Ext.228
Facsimile: 856-21 414 210

Cc: Ms Phutdaovieng
Ministry of Finance
Vientiane,Lao P.D.R
Tel: 021-911 611
Mobile: 020 99814 918

From: Kayakeo VONGSALASIN
Deputy Director, DPWT, Oudomxay Province
Tel/Fax: 081-212 909

Date: 1 June 2011

**Subject: Lao P.D.R: Provincial Infrastructure Project: Credit No.3131-LA
Comments for Project Performance Assessment Report**

Dear Sirs/Madam,

Based on the draft of the Project Performance Assessment Report send to us on dated:25 May 2011 we have read and accepted to the report.

However do to the condition of our province , the scope of the project was insufficient to full provide all the needs of the province and we hope that in the future our province will get help from World Bank to support by these following:

- Construction of Township Water Supply for 3 Districts (Muang La, Beng and Nga)
- Construction of Provincial and local roads in Oudomxay province
- Capacity Building for Rural Area
- Road maintenance by groups village
- Traffic management

Sincerely,

Yours

Kayakeo VONGSALASIN
Deputy Director,
DPWT,Oudomxay Province
E_mail:vkayakeo@yahoo.com, msoutchalit@hotmail.com



LAO PEOPLE'S DEMOCRATIC REPUBLIC

Peace Independence Democracy Unity Prosperity

Department of Public Works and Transport, Phongsaly province

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ed_keosomphan@yahoo.com.

H.E. Mr. Monika
Manager
Public Sector Evaluations
Independent Evaluation Group
Dea Manager:

Re: Comments on Draft Project Performance Assessment Report
on Lao PDR - Provincial Infrastructure Project (Credit 3131-PO42237)

Department of Public Works and Transport, Phongsaly province is a unit that achieved a credit No. 3131- LA from the World Bank and implementing the Provincial Infrastructure Project in the Phongsaly province during 1998 to 2005.

We fully determine with your *Draft Project Performance Assessment Report* for Lao PDR - PIP (Credit 3131 - PO42237), especially Results Achieved, Ratings and lessons from the project implementation that summaries by IEG, an Independent Unit of the World Bank.

The PIP even though had conducted in the Phongsaly province with highly achieved in many issues such: Integrating the province in to the National Economy and reducing provincial poor people and gathering with the Government's annually infrastructure development projects. However, there are still many unpaved road in

the provincial transport network that strongly need to be up grade, improve and construct them, moreover strengthening Local Institutional Capacity also should be performance in the province and Another sector which also necessary to be carried out is Water Supply in districts. There for, we are highly request to the World Bank to consider and permit a more credit with a same project conduction formation of Provincial Infrastructure Project which is efficiently achieved in the previous PIP.

Previously, the PIP has strongly contributed to the poorest province's Social Economy Development (Phongsaly Province). We're hopefully that our comment and request will be a use ful one to your final report that will be distributed to your Board of Executive Director of the World Bank and have accepted a more credit from World Bank

Yours sincerely,



Mr. Bounthavy SOSOUKHANH, Deputy Director
Department of Public Works and Transport
Phongsaly province,
Lao PDR.

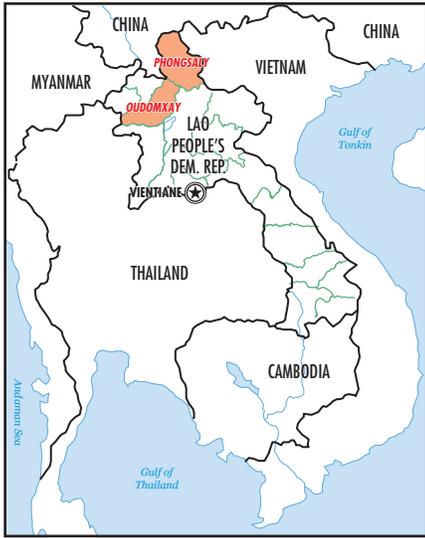
100E 102E 104E 106E 108E 22N 20N 18N 16N

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LAO PEOPLE'S DEMOCRATIC REPUBLIC PROVINCIAL INFRASTRUCTURE PROJECT – CONTEXT

- PROJECT PROVINCES
- MAIN CITIES AND TOWNS
- PROVINCE CAPITALS
- NATIONAL CAPITAL
- MAIN ROADS
- RAILROADS
- PROVINCE BOUNDARIES
- INTERNATIONAL BOUNDARIES



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LAO PEOPLE'S DEMOCRATIC REPUBLIC PROVINCIAL INFRASTRUCTURE PROJECT – COMPONENTS



- PLACES VISITED BY THE IEG MISSION
- MAIN TOWNS AND VILLAGES
- PROVINCIAL CAPITALS
- PROVINCIAL ROADS
- NATIONAL ROADS (UNPAVED)
- NATIONAL ROADS (PAVED)
- PROVINCE BOUNDARIES
- INTERNATIONAL BOUNDARIES