



Technical Assistance Report

Project Number: 35305
December 2005

Technical Assistance Lao People's Democratic Republic: Preparing the Northern Greater Mekong Subregion Transport Network Improvement Project (Financed by the Japan Special Fund)

CURRENCY EQUIVALENTS

(as of 30 November 2005)

Currency Unit	–	kip (KN)
KN1.00	=	\$0.0001
\$1.00	=	KN10,805

ABBREVIATIONS

ADB	–	Asian Development Bank
DOR	–	Department of Roads
EIRR	–	economic internal rate of return
EMDP	–	ethnic minority development plan
GMS	–	Greater Mekong Subregion
Lao PDR	–	Lao People's Democratic Republic
MCA	–	multi-criteria analysis
MCTPC	–	Ministry of Communications, Transport, Post, and Construction
NGO	–	nongovernment organization
NPV	–	net present value
PPTA	–	project preparation technical assistance
RMF	–	Road Maintenance Fund
RRDP	–	Roads for Rural Development Project
Sida	–	Swedish International Development Agency
STI	–	sexually transmitted infection
SWAp	–	sector-wide approach
TA	–	technical assistance

TECHNICAL ASSISTANCE CLASSIFICATION

Targeting Classification	–	General intervention
Sector	–	Transport and communications
Subsector	–	Roads and highways
Themes	–	Sustainable economic growth, regional cooperation
Subtheme	–	Fostering physical infrastructure development

NOTE

In this report, "\$" refers to US dollars.

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I. INTRODUCTION

1. During the 2004 Country Programming Mission, the Government requested the Asian Development Bank (ADB) for technical assistance (TA) to prepare the Northern Greater Mekong Subregion (GMS) Transport Network Project. A project preparation technical assistance (PPTA) for this project was included in ADB's *Country Strategy and Program Update (2006–2008): Lao People's Democratic Republic (Lao PDR) (2005)*¹ and *Regional Cooperation Strategy and Program Update (2006–2008): Greater Mekong Subregion (2005)*. Under an ADB-funded small-scale TA² a study was undertaken to identify priority connections to, and across, the northern region of Lao PDR from the countries of the northern GMS. The PPTA will prepare a project for the top-ranked connection identified under the small-scale TA. This project, which will be suitable for funding by ADB, shall be technically and economically feasible and socially and environmentally acceptable. A mission visited the Lao PDR from 22 August to 2 September 2005 and held initial discussions with the Government on the proposed TA. Agreements were reached on the impact, outcome, outputs, implementation arrangements, cost, financing arrangements, and terms of reference. A design and monitoring framework for the PPTA is in Appendix 1.

II. ISSUES

2. Landlocked Lao PDR is poor, mountainous, and sparsely populated. Road access is a key condition that underlies the potential for poverty reduction in the Lao PDR, both in terms of ability and cost effectiveness of targeting services to the poor, as well as the benefits in poverty reduction that result from economic growth. Thus, improved accessibility can reduce poverty both directly and indirectly, with multisectoral implications, especially in education and health.

3. The Government has set as its long-term development goal the exiting from the status of a least developed country by 2020 through the National Growth and Poverty Eradication Strategy.³ It identifies transport development as critical to achieving the overall development goal. The main goal for transport is to “fully integrate the economy, thereby providing an enabling environment for trade and commerce and access for all Lao people to basic services”. The strategy's specific transport goals include improving access to markets, and strengthening economic development, transport links with neighboring countries, and regional integration and trade opportunities. The Government has given high priority to improving the road transport system to facilitate (i) the movement of agricultural products from surplus to deficit areas, (ii) the flow of consumer goods and agricultural inputs to rural areas, (iii) marketing and export of cash crops and other produce, and (iv) participation in regional and international trade. The targets for physical infrastructure development include (i) completing the national road network, (ii) improving the provincial road network, (iii) upgrading transit routes, and (iv) establishing a sustainable maintenance system to preserve the country's transport infrastructure.

4. Transport is almost exclusively by road. Roads carry about 70% of freight and 90% of passenger traffic, and are a key element of the basic infrastructure supporting national and international trade. Density of the road network is low: about 0.14 kilometer per square kilometer. Road contact between Vientiane and the provincial capitals is improving, but 4 of the 18 provincial capitals remain without all-weather links. Only 14% of the road network is paved,

¹ The TA first appeared in *ADB Business Opportunities* (internet edition) on 12 September 2005.

² ADB. 2004. *Technical Assistance to the Lao People's Democratic Republic for GMS Infrastructure Connections in Northern Lao PDR*. Manila (TA 6193)

³ The National Assembly of the Lao PDR mandated the Government to implement the strategy in October 2003.

including about half of the national road system. The other roads have gravel or earth surfaces. Much of the local network is impassable during the wet season. Traffic is generally low on national and provincial roads.

5. The Lao PDR is pivotal to the GMS transport corridors linking northern Thailand, northern Viet Nam, and the southern provinces of the People's Republic of China. A major impediment to subregional economic cooperation is poor basic infrastructure. Improved connections are required across countries and between centers of economic activity. In northern GMS, sections of key transport corridors have been improved under other projects but significant gaps remain. Themes developed under the Northern Region Development Strategy⁴ include connecting provincial centers within northern Lao PDR and improving connections between the Lao PDR and GMS countries. Improving routes that connect provinces in the Lao PDR will enhance subregional connections between northern Lao PDR and surrounding countries.

6. A number of border crossings have been established between the Lao PDR and its GMS neighbors. Upgrading of roads in the neighboring countries to these existing crossings is either complete or under way. However, within Lao PDR many of the linkages across the country between these border crossings are either absent or in poor condition. Although other crossings may be established, a significant program of investments is needed to connect the existing crossings.

7. Under TA 6193 (footnote 2) corridors across northern Lao PDR were identified that linked existing border crossings. This allowed the upgrading of sections of roads along these corridors to be placed in both national and subregional contexts. The corridors were ranked using economic analysis and multi-criteria analysis (MCA). MCA allowed factors such as accessibility to markets, need for health and education facilities, and agricultural potential to be included in the assessment. Under the economic analysis, the basis for ranking each road segment was the net present value of cost and benefit streams arising from improvements to each segment. This analysis gave the highest priority to upgrading three segments of Route 4, starting from the junction with Route 13, near Luangprabang, to the border with Thailand near Kenthao. The same result came out of evaluations using MCA, and a combination of economic analysis and MCA.

8. The upgrading of Route 4 will connect (i) districts in central and southern Xayabury, (ii) the capitals of Luangprabang and Xayabury with a sealed all-weather road, and (iii) the border crossing with Thailand near Kenthao⁵ with the GMS corridors that converge on Luangprabang. These connections will reduce transport costs to deliver produce from the important agricultural areas in southern Xayabury to domestic and subregional markets.

⁴ The strategy is to be incorporated into the Lao PDR national socioeconomic development plan for 2006–2010.

⁵ In 2004, construction of a bridge and connecting roads on the Lao and Thai sides of the border were completed using funds from the Government of Thailand.

9. Ongoing transport policy initiatives address the following: (i) sustainability of the transport network, (ii) reduction of road traffic accidents, and (iii) improvement of the capacity of road sector agencies to manage social and environmental impacts. Under the ADB-funded Rural Access Roads Project⁶ and Roads for Rural Development Project (RRDP),⁷ and the World Bank-funded Road Maintenance, Projects I and II, support is being given to the Road Maintenance Fund (RMF). The target is that 90% of funding for the national road network will be sourced from domestic funds by 2014. The World Bank program is helping the RMF develop systems to prepare strategic and annual maintenance plans and to implement these plans. As part of the RRDP, the Nordic Development Fund is funding a component to implement the National Road Safety Strategy. Work on this component will start in December 2005. Under an ADB-funded TA,⁸ a program was prepared to build the Department of Roads' capacity. The Swedish International Development Agency (Sida) is preparing a proposal to extend Sida-funded work and build on the work under the above TA.

10. The Government has requested its development partners in the road subsector to consider adopting a sector-wide approach (SWAp). Support to the RMF has the characteristics of a SWAp in that the development partners are providing funds that the RMF allocates to a program of priority road maintenance projects. The identification and prioritization of the projects is based on agreed procedures. To prepare for a SWAp for the road subsector will require confirmation that Ministry of Communications, Transport, Post, and Construction (MCTPC) has the capacity to implement a SWAp, that all necessary procedures are developed, and that indicators and targets are identified.

III. THE TECHNICAL ASSISTANCE

A. Impact and Outcome

11. The target outcome of the proposed project, and the impact of this PPTA, is to make the movement of passengers and goods more efficient and cost-effective provincially (within Xayabury), nationally (between northern and central Lao PDR), and subregionally (between northern Lao PDR and Thailand). The PPTA's output will be a project design and feasibility study agreed upon by ADB and the Government. The study will set out an economically and technically feasible and socially and environmentally acceptable project to rehabilitate and upgrade transport links and facilities along the project roads. An initial poverty and social analysis for the project is in Appendix 2.

B. Methodology and Key Activities

12. PPTA activities will address the requirements of ADB and the Government to prepare a project suitable for funding under an ADB loan. The PPTA scope will cover the entire length of Route 4, from the junction with Route 13 at Xieng Ngeun, near Luangprabang, to Ban Nakha, including connections to the border with Thailand near Kenthao. The PPTA will also include the

⁶ ADB. 2001. *Report and Recommendation of the President to the Board of Directors on Proposed Loan to the Lao People's Democratic Republic for the Rural Access Roads Project*. Manila (Loan 1795).

⁷ ADB. 2004. *Report and Recommendation of the President to the Board of Directors on Proposed Loan to the Lao People's Democratic Republic for the Roads for Rural Development Project*. Manila (Loan 2085).

⁸ ADB. 2000. *Technical Assistance to the Lao People's Democratic Republic for Strengthening Social and Environmental Management Capacity in the Department Of Roads*. Manila (TA 3557).

final section of Route 4A to connect Xayabury to Hongsa.⁹ Activities will include (i) analyzing transport links to determine the economic and technical feasibility and the social and environmental acceptability of upgrading roads, (ii) preparing a matrix that ranks components and provides options for combining components to form logical projects for a range of funding levels, (iii) reviewing facilities at the Lao PDR–Thailand border on the project road, and (iv) determining the road subsector’s suitability for a SWAp by the development partners and setting up a program to adopt a SWAp. Considerations for project sustainability will include a review of the RMF’s activities, and an analysis of projections for RMF revenues and expenses required to maintain the national road network. The project will include a crossing of the Mekong River at Pakkhorn-Thadeu, which is currently served by a ferry. Under the PPTA, a preliminary evaluation will be undertaken of the relative merits of either upgrading the existing ferry facilities or constructing a bridge. This study will include an assessment of potential environmental and social impacts.

13. The PPTA will review MCTPC’s capacity to implement a SWAp. Procedures will be reviewed to ensure that an appropriate program of investment projects can be developed and monitored, and appropriate indicators and targets will be identified. The PPTA will include a workshop for MCTPC and the development partners to discuss this review. If it is agreed that the conditions for a SWAp can be met then a program will be proposed to launch the SWAp.

C. Cost and Financing

14. The total cost of the PPTA is estimated at \$950,000 equivalent, of which the foreign exchange cost is \$480,000 and the local currency cost is \$470,000 equivalent. ADB will finance \$800,000 equivalent, comprising the entire foreign exchange cost and a portion of the local currency cost amounting to \$320,000 equivalent. The TA will be financed on a grant basis by the Japan Special Fund, funded by the Government of Japan. The Government of the Lao PDR will finance the remaining \$150,000 equivalent of local currency costs through in-kind contributions of the Executing Agency in terms of counterpart staff; office furniture, and facilities for the consultants and counterpart staff; local transport and local communications for counterpart staff; and maps, reports, and other information. Detailed cost estimates are in Appendix 3. The Government of the Lao PDR has been informed that approval of the TA does not commit ADB to finance any ensuing project.

D. Implementation Arrangements

15. MCTPC will be the Executing Agency for the PPTA, with overall responsibility for the Government’s contribution. The director general of the Department of Roads (DOR), under MCTPC, will have technical responsibility for the PPTA, and will set up a subunit staffed with counterpart personnel for day-to-day coordination and to work with the PPTA consultant’s personnel as well as other Government agencies, nongovernment organizations (NGOs), and other interested parties.

16. The TA will require about 79 person-months of consulting services, including about 21 person-months of international and about 58 person-months of domestic consulting services. The TA will be implemented over 8 months, from May 2006. The TA will close at the end of April

⁹ The entire length of Route 4A was included in the scope of the RRDP (footnote 7) but upgrading work cannot be completed due to a shortage of funds.

2007, allowing for submission of final reports and accounts. Outline terms of reference are in Appendix 4.

17. Reports will be prepared and submitted as follows:
- (i) an inception report, 1 month after services start;
 - (ii) an interim report, at the end of the third month of the services;
 - (iii) a draft final report, at the end of the seventh month, presenting all aspects of the study results, including surveys, findings, and recommendations; and
 - (iv) a final report, 1 month after receiving comments on the draft final report from MCTPC and ADB.

18. Brief progress reports will be submitted monthly. Tripartite meetings will be held after the submission of the inception, interim, and draft final reports. A workshop will be held after submission of the draft final report to present the project to the Government, NGOs, and other stakeholders. A second workshop, to be attended by representatives of all development partners, will be held to present the results of the sector development component.

19. The international consultants will have expertise in transport planning and economics, highway design and maintenance, bridge maintenance, environmental assessment, resettlement, social development issues, and institutional development. The domestic consultants will have expertise in transport planning, highway design, environmental assessment, resettlement, and social development. The consultants will be engaged by ADB in accordance with the *Guidelines on the Use of Consultants* and other arrangements satisfactory to ADB for the engagement of domestic consultants. Consultants will be recruited using quality- and cost-based selection procedures; simplified technical proposals will be requested. TA-financed equipment will be procured in accordance with ADB's *Guidelines for Procurement*. Equipment purchased under the PPTA will be handed over to the DOR at the end of the services.

IV. THE PRESIDENT'S DECISION

20. The President, acting under the authority delegated by the Board, has approved the provision of technical assistance not exceeding the equivalent of \$800,000 on a grant basis to the Government of the Lao People's Democratic Republic for preparing the Northern Greater Mekong Subregion Transport Network Improvement Project, and hereby reports this action to the Board.

DESIGN AND MONITORING FRAMEWORK

Design Summary	Performance Targets/Indicators	Data Sources/Reporting Mechanisms	Assumptions and Risks
<p>Impact Facilitate more efficient and cost-effective movement of passengers and goods provincially (within Xayabury), nationally (between northern and central Lao PDR), and subregionally (between Thailand and northern Lao PDR)</p>	<p>Upgrading of Route 4 to a sealed, all-weather, standard road. Increase in average travel speeds by 10km/hr</p> <p>Quantity of goods moving along project roads increases at 5% a year in value</p> <p>Quantity of goods moving across the Lao PDR–Thailand border at Kenthao increases at 5% a year in value</p> <p>For Route 4, within 2 years of completion of improvement works, bus fares are reduced by an average of 10%, and freight rates by 20%, in real terms</p>	<p>Provincial and national trade statistics</p> <p>Customs reports</p> <p>Traffic surveys</p> <p>Survey of tariffs for transport of goods and people</p>	<p>Assumptions</p> <ul style="list-style-type: none"> • The GMS Agreement on the Facilitation of Cross-Border Transport of Goods and People is finalized and implemented • Lao PDR's trade relations with Thailand, PRC, and Viet Nam are stable • Kenthao border crossing is included in the GMS cross-border transport agreement
<p>Outcome Project design and feasibility study agreed on by governments and ADB, setting out an economically, technically, socially, and environmentally feasible project to rehabilitate and upgrade transport links and facilities along the project roads</p>	<p>Memorandum of understanding signed by the Government and ADB during the appraisal mission by 10 months after services start</p>	<p>Memorandum of understanding</p>	<p>Assumptions</p> <ul style="list-style-type: none"> • The priorities of the Government remain the same • The Government does not seek other sources of funding
<p>Outputs Technical assessments completed, including the following: (i) determining the economic and technical feasibility, and social and environmental acceptability, of upgrading existing roads; (ii) preparing a matrix setting out options for a range of funding levels; (iii) reviewing facilities at the Lao PDR–Thailand border on the project road; and (iv) evaluating the road subsector in terms of suitability for the adoption of a SWAp</p>	<p>Draft final report submitted to governments and ADB by end of seventh month after consulting services start</p>	<p>Receipt of report by ADB</p> <p>Receipt of report by government</p>	<p>Risks</p> <ul style="list-style-type: none"> • Restricted availability and access to information and government personnel • Restricted access to project sites • Development partners accept suitability of road subsector for SWAp

Activities with Milestones^a	Inputs
1. Principal Tasks	
1.1 Initial survey, improvement options, and data collection questionnaires	Month 2
1.2 Economic analysis methodology	Month 2
1.3 Initial environmental impact assessment	Month 3
1.4 Initial social impact assessment	Month 3
1.5 Poverty, social, and gender analysis	Month 3
1.6 Evaluation of ferry or bridge options for Mekong River Crossing	Month 4
1.7 Bridge evaluation	Month 4
1.8 Road safety audits	Month 4
1.9 Engineering design and cost estimates	Month 4
1.10 International border facilities	Month 4
1.11 Road maintenance sustainability	Month 4
1.12 Economic analysis	Month 6
1.13 Initial environmental examination	Month 6
1.14 Replacement cost study	Month 6
1.15 Financial management assessment of project agencies	Month 6
1.16 Resettlement, and ethnic minority development plans and gender strategy (including HIV/AIDS and human trafficking)	Month 7
1.17 Project performance management system	Month 7
1.18 Upgrading options matrix	Month 7
1.19 Evaluation of road subsector for SWAp	Month 7
2. Progress Reports	
2.1 Inception report	Month 1
2.2 Interim report	Month 4
2.3 Draft final report	Month 7
2.4 Submission of final report within 1 month of receiving comments on draft final report	

ADB = Asian Development Bank, GMS = Greater Mekong Subregion, HIV/AIDS = human immunodeficiency virus/acquired immunodeficiency syndrome, PRC = People's Republic of China, SWAp = sector-wide approach.

^a Milestones are defined in terms of number of months from the start of consulting services. Due date is the end of the month.

INITIAL POVERTY AND SOCIAL ANALYSIS

A. Linkages to the Country Poverty Analysis

Is the sector identified as a national priority in country poverty analysis?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is the sector identified as a national priority in country poverty partnership agreement?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<p>Contribution of the sector or subsector to reduce poverty in the Lao PDR:</p> <p>The poor in the Lao People's Democratic Republic (the Lao PDR) are heavily burdened by lack of access to goods, labor markets, and social services. Lack of access results in high transportation costs that reduce the mobility of people and of goods produced by the poor. It also results in reduced or lack of access to consumer goods, social services, information, and market and livelihood opportunities for labor, with consequent implications for income and socioeconomic welfare. Poor households in areas with limited access are often unable to overcome the cost barriers of mobility. This results in high levels of subsistence, with high vulnerability to external shocks and food shortages.</p> <p>Poor rural access to the rest of the economy implies that overall economic growth has limited impact on the rural poor. The result is increased inequalities between rural and urban areas. The Lao PDR greatly reduced poverty during the 1990s, mainly because of economic growth, but significantly less so in remote and access-deprived provinces; poverty even increased in some areas.</p> <p>The road sector plays a key role in improving accessibility in landlocked Lao PDR. Mobility of people, goods, and services will increase and affect prices. How much mobility increases, however, will largely depend on policies of transport services, including outreach and tariffs, and the demand and affordability of such services.</p> <p>Road accessibility will inevitably improve access to social services, including health and education, by shortening the time and cost of traveling. The provision of services will also become more cost-effective. The extent of these impacts, however, will depend on Government policies and the ability of the Government to provide these services. Data suggest that all-weather village accessibility determines overall village welfare and poverty. Nationwide, per capita expenditures were found to be 46% higher for villages with all-weather access than those with no access, and 21% higher than in villages that have only dry-season access.</p> <p>Road access is key to reducing poverty, both in terms of capability and cost-effectiveness of targeting services to the poor, and in the benefits of economic growth. Most of the poor live in rural areas with limited road access. Improved access will remove cost barriers to providing social services and enhance the ability of the poor to benefit from overall economic growth. Thus, the impacts of improved accessibility on poverty reduction can be direct and indirect, with multisectoral implications, especially with respect to education and health.</p> <p>Increased road access integrates the project areas into the larger economy. Integration promotes overall economic growth by allowing these areas to contribute to the economy, and vice versa. Integration also enables the population to better benefit from economic growth.</p>			

B. Poverty Analysis**Targeting Classification: General intervention****What type of poverty analysis is needed?**

Poverty and social issues in the project area will be evaluated based on ADB's *Handbook on Poverty and Social Analysis* (2001). This evaluation will describe poverty incidence in the project area, and assesses the causes of poverty and the extent to which the proposed project will address them. A poverty analysis will focus on the impact of the recommended road improvements on the provision of social services, on movement of goods and people, and on poverty. The economic analysis of the project will include a distributional analysis between stakeholders, including the poor. A poverty impact ratio will be calculated for the project.

C. Participation Process

Is there a stakeholder analysis? Yes No To be prepared under the proposed TA.

A participatory stakeholders' analysis will be an integral part of social and gender analysis, and of a resettlement plan and an ethnic minority development plan (EMDP). Participatory appraisal with various stakeholders will be undertaken as part of social assessment. Individual and groups consultations will be conducted at the household and village levels during the preparation of a resettlement plan and EMDP. The stakeholder analysis will include assessments of potential impacts of human trafficking and HIV/AIDS.¹

Is there a participation strategy? Yes No To be prepared under the proposed TA.

The participatory strategy will include a grassroots mechanism for public information disclosure of compensation and resettlement issues and grievance procedures for the affected people, by ethnic group and gender.

D. Gender Development**Strategy to maximize impacts on women:**

The socioeconomic data will be disaggregated by gender and ethnic minority group. Data on resettlement issues will be disaggregated by gender. A gender strategy will be prepared for ethnic minority groups and households affected by resettlement. A socioeconomic assessment will examine the extent to which the movement of goods, specifically agricultural products for the markets, will have an impact on women's work on agriculture and income, women's job and income-earning opportunities, and poor women's wage employment. Information will be collected on rural households' access to social services and the likely impact of the improved provincial transport network on such access. Capacity-building training needs of the local, district, and provincial women's union will be identified so that they can participate in planning and implementing resettlement plans and EMDPs and in conducting community campaigns against trafficking and for HIV/AIDS prevention. Gender-disaggregated monitoring indicators will be developed to assess the impact on men and women from the affected households during preparation of resettlement plans and the EMDP.

The project's construction phase will bring an influx of temporary laborers, with impacts on communities, including increased demand for commercial sex workers, the introduction of new ideas, and job and business opportunities. Better roads facilitate movement from communities that offer few job or livelihood options. This can be positive if migration is safe, but such migration often ends in exploitation in the hands of human traffickers. The worst form of trafficking in the region is of women and children for commercial sex and child labor. The low status of women increases their vulnerability as targets and limits their options as survivors seeking a new life. Efforts to increase awareness of the dangers of trafficking, and provision of safe migration services, will help prevent negative outcomes from increased mobility in areas with improved roads. Formal employment builds the status and confidence of young women, who can then better resist the coercion and deception of traffickers. The increased risk of HIV/AIDS will be mitigated through an awareness and prevention program.

Has an output been prepared? Yes No

¹ Human immunodeficiency virus/acquired immunodeficiency syndrome.

E. Social Safeguards and Other Social Risks

Item	Significant/ Not Significant/ None	Strategy to Address Issues	Plan Required
Resettlement	<input checked="" type="checkbox"/> Significant <input type="checkbox"/> Not significant <input type="checkbox"/> None	Resettlement impacts along most of the project roads are expected to be minor. They will be limited to acquisition of narrow strips of land and movement of minor structures in villages. However, from Kenthao to Ban Nakha, the existing road construction will need more widening. A full resettlement plan will be prepared.	<input checked="" type="checkbox"/> Full <input type="checkbox"/> Short <input type="checkbox"/> None
Affordability	<input type="checkbox"/> Significant <input checked="" type="checkbox"/> Not significant <input type="checkbox"/> None	Affordability will increase because improved access will enhance cash income and job opportunities.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Labor	<input type="checkbox"/> Significant <input checked="" type="checkbox"/> Not significant <input type="checkbox"/> None	Enhanced access is expected to induce labor migration. The impact will be mainly positive for households. The contract award of the contractors will include provision of fair wages, equal wages for men and women for equal work, basic facilities in the construction camps.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Indigenous Peoples	<input type="checkbox"/> Significant <input checked="" type="checkbox"/> Not significant <input type="checkbox"/> None	Ethnic minorities have lived along the project road for many years, allowing them to assimilate into the general population. Hence, it is unlikely that they will be disadvantaged or vulnerable because of their social or cultural identity. However, the PPTA includes a social analysis to determine where ethnic minority communities are relative to the road project, and to study the type, scale, nature, and magnitude of impacts the project will have on them. Based on the study's results, an EMDP or a specific action plan may have to be prepared in addition to the resettlement plan.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Other Risks and/or Vulnerabilities	<input checked="" type="checkbox"/> Significant <input type="checkbox"/> Not significant <input type="checkbox"/> None	<p>Road Safety: The PPTA includes a road safety audit. Where safety issues are identified, mitigation measures will be included in the civil works design.</p> <p>HIV/AIDS and STI: The PPTA includes an assessment of the need for an HIV/AIDS and STI awareness and prevention program to mitigate risks from the influx of construction workers and increased mobility as a result of road improvements. Issues will be identified and strategies prepared. Detailed designs will be undertaken in conjunction with implementation.</p> <p>Trafficking of Women and Children: The PPTA assesses the need for a program to raise awareness of and prevent trafficking, and promote safe migration. This assessment will ensure that measures are in place to prevent negative outcomes from increased mobility from areas with improved roads.</p>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

ADB = Asian Development Bank, EMDP = ethnic minority development plan, HIV/AIDS = human immunodeficiency virus/acquired immunodeficiency syndrome, Lao PDR = Lao People's Democratic Republic, TA = technical assistance, PPTA = project preparation technical assistance, STI = sexually transmitted infections.

COST ESTIMATES AND FINANCING PLAN
(\$'000)

Item	Foreign Exchange	Local Currency	Total Cost
A. Asian Development Bank Financing^a			
1. Consultants			
a. Remuneration and Per Diem			
i. International Consultants	403.0	0.0	403.0
ii. Domestic Consultants	0.0	80.0	80.0
b. International and Local Travel	21.0	19.0	40.0
c. Vehicle Rental	0.0	29.0	29.0
d. Reports and Communications	2.0	4.0	6.0
2. Equipment ^b	8.0	0.0	8.0
3. Training, Seminars, and Conferences	0.0	6.0	6.0
4. Surveys ^c	0.0	135.0	135.0
5. Miscellaneous Administration and Support Costs ^d	0.0	19.0	19.0
6. Representative for Contract Negotiations	5.0	0.0	5.0
7. Contingencies	41.0	28.0	69.0
Subtotal (A)	480.0	320.0	800.0
B. Government Financing^e			
1. Office Accommodation ^f	0.0	85.0	85.0
2. Remuneration and Per Diem of Counterpart Staff	0.0	50.0	50.0
3. Others	0.0	15.0	15.0
Subtotal (B)	0.0	150.0	150.0
Total	480.0	470.0	950.0

^a Financed by the Japan Special Fund, funded by the Government of Japan.

^b Equipment to be procured will include the following: 2 desktop computers, including standard office software; 2 printers; 1 scanner; 1 handheld GPS unit; 2 photocopiers; 2 fax machines; 2 digital cameras.

^c Includes the following surveys: traffic; socioeconomic; topographic; resettlement detailed measurement; and bridge, materials and pavement investigations.

^d Includes office utilities.

^e In-kind.

^f Includes local transport of counterpart staff.

Source: Asian Development Bank estimates.

OUTLINE TERMS OF REFERENCE FOR CONSULTANTS

1. The terms of reference for the services under the technical assistance will include, but not be limited to, the following:

1. Sector Development

2. This component will address directions for transport development, particularly the road subsector. It will comprise the following tasks:

- (i) Assess the suitability of the road subsector for adopting a sector-wide approach (SWAp), and critically review the transport sector in the Lao People's Democratic Republic (Lao PDR), particularly the road subsector. Determine the extent to which the following characteristics are present:
 - (a) Government ownership of the development of the road subsector;
 - (b) a clear sector framework setting out programs, policies, and priorities within a sector strategy;
 - (c) the capacity to monitor outcomes, to link outcomes to impacts, and to develop programs that produce the outcomes that will lead to desired impacts;
 - (d) an acceptable fiscal, budget, and expenditure framework and a robust public finance system; and
 - (e) an agreement between development partners on harmonized procedures.
- (ii) Develop a program based on the critical review that will address deficiencies in meeting the characteristics listed above. This program should include, as appropriate, actions required to address deficiencies, an implementation schedule, and detailed terms of reference for each action, together with budgets. In preparing for this task, a wide range of stakeholders in the road subsector should be consulted, particularly government agencies and major funding agencies.
- (iii) Review the goals for the transport sector set out in the National Growth and Poverty Eradication Strategy, determining the extent to which each has been achieved, and identifying the need for any adjustment in light of recent developments in the sector.

2. Project Preparation

3. The following tasks will be undertaken for the entire length of Route 4, from the junction with Route 13 at Xieng Nguen via Xayabury, Paklay, and Kenthao to Ban Nakha:

- (i) Evaluate the economic growth potential of the project area on the basis of existing and planned investment projects. Estimate the potential population growth in the project area and the potential for tourism development along the project road. Assess the potential for economic corridor development for the country and for the Greater Mekong Subregion (GMS).
- (ii) Survey bridge conditions for each improvement option, which will include, but not be limited to, the following: (a) bridge type, (b) length, (c) geometry of bridges and approaches, (d) soil characteristics, (e) general condition of structural components, and (f) current loading capacity. While it is intended to retain the

existing concrete bridges constructed in the mid-1990s and the Bailey bridges, the consultant should review all the bridges along the road sections to determine and record the type and condition of the superstructure and substructure and foundations. The load-bearing capacity of each bridge should be assessed, and load restrictions recommended, especially for the Bailey bridges. Any requirement for repairs or refurbishment should be assessed, including replacement of abutments and/or piers of the Bailey bridges.

- (iii) Prepare a study of the Mekong River crossing at Pakkhorn–Thadeu. It will present preliminary analyses and designs sufficient to compare the feasibility of (a) improvements to ferry operations and (b) the construction of a bridge. The study will assess potential environmental and social impacts.
- (iv) Undertake road safety audits for all improvement options.
- (v) Prepare preliminary designs, construction quantities, and overall construction costs for each sample subproject road section for each improvement option based on the results of engineering investigations. The costs should be broken down into foreign exchange, local currency, and tax components. Direct and indirect foreign exchange should be indicated separately.
- (vi) Calculate economic vehicle operating costs for each road section with and without the proposed improvements, based on estimated changes in road surface roughness. Quantify the benefits, using shadow prices, for each project road section and for each improvement option, including time savings from improved road conditions, road maintenance savings, and fewer traffic accidents.
- (vii) Prepare a matrix that shows viable levels of improvement for each link for a range of funding options. This matrix will allow the identification by economic net present value (NPV) of the optimum improvement packages for the project within budget constraints.
- (viii) Assess the economic internal rate of return (EIRR) and NPV by homogenous road section based on ADB's *Guidelines for Economic Analysis of Projects* (1997). Derive appropriate sensitivity and switching values by varying the major parameters affecting project viability, including a full distribution analysis. The economic analysis will evaluate the alternatives using HDM IV,¹ and will assess the total life cycle costs. The analysis must identify risks and undertake a risk and sensitivity analysis of the EIRR in accordance with ADB's *Handbook for Integrating Risk Analysis in the Economic Analysis of Projects* (2002).
- (ix) From a regional perspective, prepare a distribution of benefits between the Lao PDR and Thailand.
- (x) Review the activities of the Road Maintenance Fund (RMF), and conduct a critical analysis of projections for RMF revenues and expenses required to

¹ Highway development and management software, version IV.

maintain the national road network. The purpose of this review is to confirm project sustainability.

- (xi) Prepare an initial environmental examination and summary initial environmental examinations in accordance with Ministry of Communications, Transport, Post, and Construction (MCTPC) environmental guidelines and ADB's *Environment Policy* (2002) and the guidelines available on ADB's website.² The project has been categorized under environmental category B. The project's environmental impacts will be minor as the work will consist mainly of rehabilitation and widening of existing roads.
- (xii) Estimate, and provide a break down of, costs of environmental mitigation measures, project monitoring, and capacity development.
- (xiii) Collect quantitative and qualitative data in the field and prepare socioeconomic profiles of the affected communities in the project areas in accordance with (a) ADB guidelines and publications, including *Handbook on Poverty and Social Analysis* (2001) and *Handbook on Resettlement* (1998); and (b) the requirements of the Lao PDR, including Decree 192/PM on Compensation and Resettlement (2005), and Implementing Regulations and Technical Guidelines (2005). The profiles shall cover gender and local ethnic minorities. The gender strategy shall include gender-specific livelihood programs for the resettlement plan, awareness raising for women on trafficking and HIV/AIDS, a training needs and training plan for MCTPC in implementing the gender strategy, a detailed budget for the strategy with detailed terms of reference, and an implementation schedule.
- (xiv) Evaluate poverty and social issues in the project area based on ADB's *Handbook on Poverty and Social Analysis* (2001). Describe the incidence of poverty and assess the causes of poverty and the extent to which the project will address them. Identify potential barriers to the poor benefiting from economic growth and recommend interventions that could maximize poverty reduction (seasonal and long term) for poor households. Estimate (a) wage job opportunities (person-days) for poor households during construction, and (b) general job opportunities in improving transport network. The presence of ethnic minorities or other vulnerable groups within the zone of influence should be determined together with the potential impact of the project on them. When negative impacts are identified, mitigation measures will be developed and their costs estimated.
- (xv) Analyze the potential poverty impact of the project, focusing on the impact of the recommended road improvements on the provision of social services, movement of goods and people, and their impact on poverty. The economic analysis of the project will include distributional analysis between stakeholders, including the poor. A poverty impact ratio will be calculated for the project.
- (xvi) Undertake a social and gender analysis as per the guidelines above and ADB's social safeguard policies: on *Involuntary Resettlement* (1995) and *Indigenous Peoples* (1998), *Policy on Gender and Development* (1998), and *Gender*

² Environmental Categorization and Rapid Environmental Assessment Checklists. Available: http://www.adb.org/documents/Guidelines/Environmental_Assessment/eaguidelines002.asp

Checklist on Resettlement (2003). Review and assess the impacts of land acquisition or loss of land use on project-affected people by gender and ethnic group (in terms of loss of homes, agricultural and other types of land; or loss of access to current income-generating activities), including impacts caused by permanent or temporary land acquisition.

- (xvii) Prepare a full, implementable resettlement plan for the project components within each province along the project road based on ADB's *Involuntary Resettlement* (1995) and *Handbook on Resettlement: A Guide to Good Practice* (1998). Preparation should fully involve all stakeholders, and include executing and implementing agencies. It should take account of the requirements of Decree 192/PM on Compensation and Resettlement (2005), and Implementing Regulations and Technical Guidelines (2005).
- (xviii) Develop a time-bound ethnic minority development plan (EMDP), if the social analysis determines that ethnic minorities are likely to be affected significantly by the project or that they are disadvantaged or vulnerable because of their social or cultural identity. The EMDP will include specific measures and approaches to address the concerns of the ethnic minorities. It must be developed in accordance with ADB's policy on *Indigenous People* (1998). Preparation should fully involve stakeholders and include executing and implementing agencies. Identify areas for institutional strengthening of the Department of Roads (DOR) in implementing the EMDP and recommend capacity building for the DOR. Develop livelihood programs, a consultation process, information disclosure, and grievance process if the ethnic minority groups are to be resettled. The EMDP must be detailed enough to allow implementation of all measures proposed, and provide details of budgets, implementation arrangements, and implementation schedules.
- (xix) Assess HIV/AIDS programs in the project area, and the capacity of national and provincial authorities to implement them. Since the project will follow a subregional transport corridor, risks include the transmission of HIV/AIDS and human trafficking. Identify gaps in existing programs, or shortcomings in the capacity of responsible agencies to implement programs, and design measures to address these gaps and shortcomings. Detailed terms of reference must be provided for all proposed measures together with details of budgets, implementation arrangements, and implementation schedules. All measures proposed must be consistent with and complement existing programs. Needs to be assessed will include awareness campaigns for project communities, including ethnic minorities, and for temporary communities associated with construction camps, and will include items to be included in civil works contracts.
- (xx) Review the existing and proposed facilities at the Kenthao border crossing and determine what it needs to operate as an international crossing under the GMS Agreement on Facilitation of Cross-Border Transport of Goods and People. The review should take account of the adoption of procedures that extend the authority of border officials such that they can operate outside of national boundaries (extraterritorial performance of duties of border authorities). These duties include working under single-stop inspection procedures and operation of facilities for the control of heavy vehicles.

- (xxi) Assess the capacity of responsible central and provincial institutions to plan, manage, implement, finance, and monitor effective land acquisition, compensation, and resettlement. Identify capacity-building measures to be included in the project.
 - (xxii) Assess the capacity of responsible central and provincial institutions to conduct environmental impact assessments and environmental management. Assess training needs and recommend improvements to institutional arrangements.
 - (xxiii) Define project implementation arrangements, demonstrate the relationship between relevant institutions, and indicate the responsibilities of each unit in a participatory implementation framework. Review the implementation arrangements to make the project implementation structure and personnel more effective. Recommend a project implementation structure based on the above so that projects are effectively prepared, managed, and implemented.
 - (xxiv) Describe the accounting and audit processes and procedures of the implementation agencies. Include document and fund flows with particular attention to the integrity and completeness of auditing.
 - (xxv) Prepare outline terms of reference to implement the strategies, training needs, capacity building, and other interventions identified above. These terms of reference must include detailed budgets and implementation schedules.
 - (xxvi) Prepare terms of reference for a construction supervision consultant to be engaged during project implementation. They should provide details of budgets, implementation arrangements, and implementation schedules.
 - (xxvii) Design a project performance monitoring system in accordance with ADB's *Guidelines for Project Performance Monitoring* (1999). Develop a detailed evaluation and monitoring framework for the ensuing project, including impacts, outcomes, and outputs with corresponding measurable performance indicators and targets, monitoring mechanisms, risks, and assumptions. Provide baseline data for all proposed indicators. Identify agencies responsible for monitoring activities and when these activities should be undertaken.
4. For the final section of Route 4A to connect Xayabury to Hongsa, review the economic analysis for the Xayabury to Hongsa road based on the work done under PPTA 3756-LAO³ and under Loan 2085-LAO.⁴ Update the analysis, as appropriate, to confirm the feasibility of the remaining upgrading work.

³ ADB. 2001. *Technical Assistance to the Lao People's Democratic Republic for Preparing the Roads for Rural Development Project*. Manila (TA 3756).

⁴ ADB. 2004. *Report and Recommendation of the President to the Board of Directors on Proposed Loan to the Lao People's Democratic Republic for the Roads for Rural Development Project*. Manila (Loan 2085).