



Project Administration Memorandum

Project Number: 39038
Loan Number: 2247
December 2006

PRC: HEILONGJIANG ROAD NETWORK DEVELOPMENT PROJECT

The project administration memorandum is an active document, progressively updated and revised as necessary, particularly following any changes in project or program costs, scope, or implementation arrangements. This document, however, may not reflect the latest project or program changes.

Asian Development Bank

PAM:PRC 39038

ASIAN DEVELOPMENT BANK

PROJECT ADMINISTRATION MEMORANDUM

FOR THE

**HEILONGJIANG ROAD NETWORK DEVELOPMENT PROJECT
(Loan No. 2247-PRC)**

November 2006

CURRENCY EQUIVALENTS

(as of 26 June 2006)

Currency Unit	–	yuan (CNY)
CNY1.00	=	\$0.1250
\$1.00	=	CNY8.0002

ABBREVIATIONS

ADB	–	Asian Development Bank
EA	–	Executing Agency
EIA	–	environmental impact assessment
HPCD	–	Heilongjiang Provincial Communications Department
HPG	–	Heilongjiang provincial government
LIBOR	–	London interbank offered rate
MOC	–	Ministry of Communications
O&M	–	operation and maintenance
PAM	–	project administration memorandum
PCR	–	project completion report
PIU	–	Project Implementation Unit
PPMS	–	project performance management system
PRC	–	People's Republic of China
QPR	–	quarterly progress report

NOTES

- (i) The fiscal year of the Government and its agencies ends on 31 December.
- (ii) In this report, "\$" refers to US dollars.
- (iii) The exchange rate of the yuan is determined under a floating exchange rate system. In this report, a rate of \$1.00 = CNY8.0800, the rate prevailing at project appraisal, was used.

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LOAN PROCESSING HISTORY

a.	Approval of project preparatory technical assistance	23 June 2005
b.	Feasibility Study	20 July 2005
c.	Fact-finding	8-15 February 2006
d.	Management Review Meeting (MRM)	10 April 2006
e.	Appraisal Mission	17-18 April 2006
f.	Staff Review Committee (SRC)	16 May 2006
g.	Loan Negotiations	5-8 June 2006
h.	Board Circulation	5 July 2005
i.	Board Consideration and Approval	26 July 2006
j.	Loan Agreement Signing	_____
k.	Cofinancing arrangement finalized and Agreements Signed (with China Development Bank)	_____
l.	Loan Effectiveness, including conditions	_____

DESIGN AND MONITORING FRAMEWORK

Design Summary	Performance Targets/Indicators	Data Sources/Reporting Mechanisms	Assumptions and Risks
<p>Impact Improved transport system that supports economic growth and socioeconomic development in Heilongjiang province and the project area</p>	<p>During 2010–2020, GDP increases by 7.5% in Heilongjiang and 7.5%– to 8.0% in the project area</p> <p>Average per capita rural net income in the villages increases from CNY2,471 in 2004 to CNY4,500 in 2015</p> <p>The incidence of poverty in the project area falls from 13% in 2005 to 9% in 2015</p> <p>The number of poor villages in the project area is reduced from 178 to 90 in 2015</p> <p>New or renovated houses in the villages increase from 5% of total houses in 2005 to 10% in 2015</p> <p>In 5 years, the project area has 10% more jobs than the control area</p> <p>Nonfarm income increases from 30% of total income in 2005 to 50% in 2015</p> <p>The number of rural enterprises grows 5% within 5 years</p> <p>The number of tourists visiting the project area increases by 30% by 2015</p> <p>Interprovincial and intraprovincial trade in the northeast increases by 10% within 3 years</p>	<p><i>Heilongjiang Statistics Yearbook</i></p> <p>Village survey by consultants</p> <p>Statistics offices at the provincial and county levels</p> <p>County and provincial data</p> <p>Village survey by consultants</p> <p>Provincial and county statistics offices</p> <p>Household survey by consultants</p> <p>County statistics offices and a village survey</p> <p>Township and county statistics and a village survey</p> <p>Provincial and county statistics offices</p>	<p>Assumptions</p> <ul style="list-style-type: none"> • Government investment projects are implemented as planned. • Complementary activities are implemented.
<p>Outcome An efficient, safe, and environmentally friendly road transport system developed in Heilongjiang</p>	<p>Traffic on the project road increases from an average of 2,450 vehicles daily in 2010 to 4,875 in 2019</p> <p>Travel time between Linkou and Baiquan is reduced to 7.5 hours</p> <p>Bus fares and freight charges are reduced by 10% by 2015</p>	<p>Collection of actual traffic data on the project road through its auto-monitoring system by the Heilongjiang Provincial Communications Department (HPCD)</p> <p>Traffic counts and travel time survey for the project highway and local roads by HPCD</p> <p>Monitoring of fares and rates by HPCD</p>	<p>Assumptions</p> <ul style="list-style-type: none"> • Assumed economic growth rates materialize. • Transport operators and drivers realize the benefits of using the project road. • HPCD demonstrates implementation capacity. • Operating cost savings realized by commercial vehicle operators are passed on to road users.

Design Summary	Performance Targets/Indicators	Data Sources/Reporting Mechanisms	Assumptions and Risks
	<p>The frequency of visits to township markets increases from 4 times/household/month in 2005 to 6 in 2015</p> <p>The frequency of visits to villages by extension workers increases from once every 6 months in 2005 to four times every 6 months in 2015</p> <p>Transport expenses increase from 5% of total expenses in 2005 to 8% in 2012</p> <p>Villages with paved road access increase from 25% of the total to 55% by 2010</p> <p>Bus service increases from 80% of townships in 2004 to 100% by 2015</p> <p>The number of serious road accidents and fatalities in the project area is reduced by 20% by 2015</p>	<p>Household survey by consultants</p> <p>Village survey by the consultants</p> <p>Household survey by consultants</p> <p>Monitoring of accessibility by local communications bureaus</p> <p>Monitoring of bus-related data by HPCD</p> <p>County statistics Accident statistics from the Heilongjiang Public Security Bureau and hospitals</p>	<ul style="list-style-type: none"> • Transport services improve, as does road access shortly after. <p>Risk</p> <ul style="list-style-type: none"> • Local governments may not have sufficient budgets to implement the road development plan. <p>Assumptions</p> <ul style="list-style-type: none"> • Rural transport service facilities are improved according to the government's plan. • The nationwide road safety program is effectively implemented.
<p>Outputs</p> <p>1. Road infrastructure and associated equipment and facilities improved along the project road</p>	<p>Road capacity increased to 1,600 passenger cars per hour at opening in 2010 by a 428 km project highway</p> <p>Vehicle operating cost for car reduced from CNY1.48 per vehicle-km in 2005 to CNY1.23 (constant price) in 2015</p> <p>Safety audits implemented during design and construction</p> <p>Equipment procured and installed for road safety, toll collection, communications, and weigh stations</p> <p>Implementation of land acquisition and resettlement plans</p> <p>Carbon dioxide emissions reduced by 30% by 2010</p> <p>Environment at the project site protected and adverse environmental impacts minimized by mitigation measures</p>	<p>Project completion report (PCR)</p> <p>Direct measures of vehicle operating costs by HPCD</p> <p>Progress reports and PCR</p> <p>Project administration memorandum (PAM), project reports, and PCR</p> <p>Regular monitoring by an independent institute engaged by HPCD</p> <p>Environmental monitoring reports, PAM, and PCR</p>	<p>Assumptions</p> <ul style="list-style-type: none"> • Civil works start as scheduled. <p>Assumption</p> <ul style="list-style-type: none"> • Domestic capacity is strong enough to develop safety audits. <p>Assumptions</p> <ul style="list-style-type: none"> • Equipment procurement and installation are completed on time. • Affected people are able to restore their living standards. <p>Assumption</p> <ul style="list-style-type: none"> • HPCD and contractors are committed to implementing mitigation measures

Design Summary	Performance Targets/Indicators	Data Sources/Reporting Mechanisms	Assumptions and Risks
<p>2. Road infrastructure and associated facilities improved for rural link roads in the project area</p> <p>3. Private sector participation encouraged in project road maintenance</p> <p>4. Domestic capacity strengthened in road maintenance and management system, and monitoring and evaluation</p>	<p>The welfare of minorities protected and the Project's adverse impacts minimized by specific actions and measures for ethnic minorities under the resettlement plan and social development action plan</p> <p>Control of HIV/AIDS and health risks of construction workers and service providers</p> <p>Class-IV road capacity increased to 500 passenger cars/hour/direction by 2010</p> <p>An operation and maintenance concession awarded for class-I roads, and a maintenance concession awarded for the rest (class-II roads)</p> <p>HPCD staff will receive 7 person-months of international consulting services and 4,900 person-months of domestic consulting services</p> <p>Local staff will receive training under a management action plan</p> <p>Survey techniques are adopted to assess changes in work practices and behavior to measure the effectiveness of the capacity-building component</p>	<p>Monitoring reports of the resettlement plan and social development action plan, PAM, and PCR</p> <p>Monitoring by the Heilongjiang Provincial Health Bureau</p> <p>PCR</p> <p>Midterm review missions and the PCR</p> <p>Midterm review missions and the PCR</p> <p>A report by the consultants on the capacity-building component</p>	<p>Risk</p> <ul style="list-style-type: none"> The capacity of the Health Bureau may be insufficient to implement mitigation measures. <p>Assumption</p> <ul style="list-style-type: none"> Quality facilities are completed on time. <p>Risk</p> <ul style="list-style-type: none"> Few private firms are interested in the project highway's operations. <p>Assumptions</p> <ul style="list-style-type: none"> Consultants are recruited on time and perform well in providing training to HPCD. Trainees apply what they have learned.
<p>Activities with Milestones</p> <ol style="list-style-type: none"> Civil works of the main highway: Contracts awarded by December 2006 and completed by October 2009 Equipment: Procured by July 2008 Resettlement: Completed by September 2007 Consulting services: Work completed by October 2010 Training programs: Training program completed by June 2009 Rural link roads: Civil works contracts awarded by December 2007 and completed by October 2009. The link road construction will start at November 2007, and will be completed at the same time as the main highway in September 2009. 			<p>Inputs</p> <ul style="list-style-type: none"> Asian Development Bank: \$200 million, of which: \$184.3 million for civil works \$15.0 million for the rural link roads \$0.73 million for consulting services Ministry of Communications: \$102.7 million HPCD: \$73.1 million China Development Bank: \$148.8 million

I. PROJECT DESCRIPTION

A. Project Area and Location

1. The Project will upgrade or construct 428 km of the Jixi-Nehe highway in Heilongjiang Province, People's Republic of China (PRC). Heilongjiang is in northeast PRC, bounded by the PRC's Inner Mongolia Autonomous Region on the west, the Russian Federation on the north, the Democratic People's Republic of Korea on the east, and Jilin province on the south. The 775-km Jixi-Nehe highway, cutting across the middle of Heilongjiang through 11 counties, is a major route connecting the eastern and western parts of the province. However, more than a half of the corridor falls under class-III or -IV highways, or gravel roads, which are in poor condition. Sections without any drainage system are impassable during winter or the wet season. The project highway will upgrade three sections urgently needing improvement to two-lane class-I or -II standards and construct two new class-II sections¹—the missing links in the Jixi-Nehe corridor—to strengthen integrated road networks in Heilongjiang, where poverty is high. The project highway will link Jixi city, a coal producer in the east, four forest counties in the middle, and three agricultural counties in the west. The project highway will be connected with one expressway, four national highways, and six provincial highways, forming part of the trunk network that is vital to Heilongjiang and the northeast.

B. Impact and Outcome

2. The Project will help promote sustainable economic growth and reduce poverty in Heilongjiang by (i) heightening transport efficiency and safety, (ii) enhancing the transport network by improving the Jixi-Nehe highway and integrating rural link roads into the main highway, and (iii) improving the access to income-generating opportunities and social services.

C. Outputs

3. The Project will comprise (i) the upgrading of 428 km of the Jixi-Nehe highway, from class III or unclassified to class II or I; (ii) the improvement of rural link roads, totaling 170 km, to strengthen the integrated network in the project area; (iii) rural road maintenance; and (iv) equipment, consulting services, capacity development, and land acquisition and resettlement.

D. Special Features

4. **Rural Link Road Component** To strengthen the poverty reduction impact of road investment, the policy dialogue between the Government and Asian Development Bank (ADB) focused on the need to integrate rural road improvement into the project design. To expand the road network in rural villages, the Project includes the improvement of rural link roads. The 22 sections of rural link roads, totaling 170 km, have been selected to link poor villages to the county center through the project highway, thus favoring the poor in the benefit distribution. The sections are currently unclassified and will be upgraded to class II and IV under the Project. Of the \$200 million ADB loan, \$15 million is earmarked to finance the rural link road component (**Appendix 1**). Some 1.7 million people will benefit from the Project, of which 379,500 people in poor rural villages will benefit from improved rural link roads. The rural link roads will (i) be upgraded concurrently with the project highway, (ii) use Government design standards that are acceptable to ADB, (iii) follow ADB's social safeguard policies, and (iv) be monitored for impact to the same degree as the project highway. Some 300 person-months of domestic consultants

¹ One class II section is a 2.2 km bridge across the Songhua river to connect the mountainous Tonghe county to the expressway network, and the other, a new 22 km road in Tonghe.

will be allocated to this component to ensure proper design and supervision, project monitoring and evaluation, engineering staff training, and project management.

5. **Rural Road Maintenance.** Adequate maintenance is crucial to ensure the sustainability of rural roads, a job for which local administrative units are responsible. During the TA, the following were examined: (i) planning of and standards for maintenance, (ii) funding sources, and (iii) monitoring of maintenance. Maintenance planning often hinges on subjective assessments, mainly because the local government lacks the resources to maintain its road networks. Local authorities draft plans for routine maintenance work, but periodic maintenance is budget-driven and lacks a systematic, preventive approach. The quality of rural roads does not seem to be systematically monitored by the higher authorities. Considering the limited funds for maintenance, a simple method for evaluating and prioritizing maintenance works must be established to streamline work programming and ensure effective fund use. During project implementation, the HPCD will develop a sound road maintenance management system, which will (i) set up measures to minimize maintenance costs; (ii) include a modern method of evaluation and maintenance prioritization for efficient work programming and fund use; (iii) include a compilation of road inventories and basic condition data; and (iv) have a monitoring system to be used by the residents. One person-month of international consulting services and 3 person-months of domestic consulting services will be engaged. Based on the output of an ADB TA,² in addition, the HPCD will develop a province-specific rural road maintenance manual by 2007, with the assistance of 15 person-months of domestic consulting services. A training program will be provided to strengthen the capacity of local governments. (**Appendix 2**)

6. **Operation and Maintenance Concession.** O&M improves substantially when handled by the private sector. An O&M concession is an agreement between a government or a state enterprise and a private enterprise, whereby the private enterprise maintains the road according to agreed standards and collects tolls from users that finance the maintenance and reward the concessionaire. Under an O&M contract, the concessionaire assumes the traffic risk and, ultimately, the revenue risk. Heilongjiang has attempted to offer O&M concessions for expressways but none was successful, mainly because of the traffic and revenue risks. Private investors thought that traffic forecasts were overly optimistic and proposed toll rates that were relatively high compared with the economic level. The current toll-setting process does not reflect demand management.³ These factors often discourage all but a few private investors from bidding. \$200,000 of the ADB loan is allocated for a study on how to strengthen domestic capacity to tackle the problem and how to facilitate awarding O&M concessions to the private sector.

7. Upon project completion, HPCD will do its best to award an O&M concession for the class-I section (totaling 8 km) and a maintenance concession for the rest (class-II roads).⁴ The 8-km section is strategically located in the corridor. Comprising a 2.63-km bridge and a 5.37-km class-I highway, the section is a major river crossing, with few nearby practical alternatives. Its physical characteristics make the section attractive. The efficiency gain from an O&M concession to the private sector for the 8-km section will boost the other sections' efficiency. HPCD and ADB will make sure that (i) the concession is adequately priced by awarding it through competitive bidding; (ii) bidding for the concession is transparent to maximize the gain of the concession to the efficiency in the operation; and (iii) the maintenance of the project roads will meet the agreed standards. HPCD will submit the bidding documents and the concession framework to ADB for review by 2008.

² ADB. 2005. *Technical Assistance to the People's Republic of China for Rural Road Development Strategy*. Manila.

³ Even under a concession arrangement, toll setting requires approval of the price bureau.

⁴ Under PRC law, the provincial government retains the operating rights to roads that are ranked as class II or lower. Thus, only a maintenance concession will be awarded to the private sector for the rest of the highway.

8. **Stakeholder Consultations.** During the preparation of the feasibility study, environmental impact assessment (EIA) and resettlement planning consultations were conducted with government agencies, villagers, local groups, and other people likely to be affected by the Project, to discuss environmental concerns, land acquisition and resettlement, and economic development potential. Village investigations and surveys were conducted to assess the Project's potential adverse effects and benefits. Over 2,400 people were interviewed during public opinion surveys, social and environmental assessments, and resettlement planning. For the resettlement plan, consultation meetings were held with representatives of affected counties, townships, and villages. Rural people were familiar with the Project and public support for it was high. Local officials explained the compensation policies and regulations to those who would lose their farmland or housing. The consultation was expanded to finalize the design and formulate compensation standards and rehabilitation measures for people displaced by land acquisition or house demolition. Villagers participated in the discussions and decisions on resettlement.

II. COST ESTIMATES AND FINANCING PLAN

A. Detailed Cost Estimates

9. The project investment is estimated at \$524.55 million, including taxes and duties of \$11.98 million (**Appendix 3**).

Table 1: Project Investment Plan
(\$ million)

Item	Amount
A. Base Cost^a	
1. Main Road Civil Works	361.80
2. Link Road Civil Works	15.83
3. Land Acquisition and Resettlement	32.64
4. Equipment	3.79
5. Consulting Services and Training	9.29
6. Project Administration	19.80
7. Taxes and Duties	11.98
Subtotal (A)	455.15
B. Contingencies^b	41.34
C. Financing Charges during Implementation^c	28.07
Total	524.55

^a In prices at the end of 2005.

^b Physical contingencies computed at 8% for civil works; and 3% for field research and development, training, surveys, and studies. Price contingencies computed at 1.9% on foreign exchange costs and 3% on local currency costs.

^c Interest during construction has been computed at the 5-year forward London interbank offered rate plus a spread of 0.4%.

Source: Asian Development Bank estimates.

B. Financing Plan

10. The Government has obtained a loan of \$200 million from ADB's ordinary capital resources to help finance the Project. The loan has a 25-year term, including a grace period of 5 years, an interest rate determined in accordance with ADB's London interbank offered rate (LIBOR)-based lending facility, a commitment charge of 0.75% per annum, and such other terms and conditions set forth in the draft loan and project agreements. Of the ADB loan, \$15 million will finance the rural link road component, with the remaining costs to be covered by the fund to be raised by provincial and county governments. HPCD has committed to ensuring the implementation of these roads during the project period.

11. The Ministry of Communications (MOC) and Heilongjiang Provincial Government (HPG) will provide 33.5% of the project costs on a grant basis. The MOC grant will amount to \$102.7 million and the HPG grant to \$73.1 million. The China Development Bank will provide a \$148.8 million loan on a 20-year term, including a grace period of 4 years, at an interest rate of 6.12%. The ADB loan proceeds will be made available to the Government, which will, in turn, make the loan proceeds available to HPG, on the same financial terms and conditions as those of the ADB loan. HPG will bear the interest rate variation and foreign exchange risks.

Table 2: Financing Plan
(\$ million)

Source	Total	%
Asian Development Bank	200.0	38.1
China Development Bank	148.8	28.4
Ministry of Communications	102.7	19.6
Heilongjiang Provincial Government	73.1	13.9
Total	524.6	100.0

Source: Asian Development Bank estimates.

C. Allocation of Loan Proceeds

12. The allocation of loan proceeds and the basis for withdrawal from the loan account are in Table 3.

Table 3: Allocation and Withdrawal of Loan Proceeds

Cat. No.	Description	Amount Allocated (\$)	Basis for Withdrawal
1	Civil Works	199,270,000	
1A	Main Road	184,270,000	51% of total expenditure
1B	Rural Roads	15,000,000	95% of total expenditure
2	Consulting Services and Training	730,000	
2A	Consulting Services	154,000	100% of foreign expenditure
2B	Training	576,000	100% of total expenditure
	Total	200,000,000	

III. IMPLEMENTATION ARRANGEMENTS

A. Executing and Implementing Agencies

13. HPCD will be the Executing Agency, responsible for implementing the Project. The project implementation unit (PIU) in HPCD named Heilongjiang the Linquan Project Construction Management Office will coordinate and monitor the highway's construction activities and operate the highway. The organization chart is in Appendix 4.

B. Project Management Organization

14. The PIU's general manager, the project director, will be responsible for overall project management in relation to the highway, approval of contracts, and payments. HPCD will implement the rural link road component. PIU will facilitate land acquisition, resettlement, and environmental protection measures, and ensure that local concerns are addressed adequately. PIU will be headed by a project manager, who will oversee day-to-day physical implementation activities and prepare progress reports. Besides its central office, PIU will have nine toll stations and eight maintenance centers. HPCD has sufficient technical capability to implement the Project, but its institutional capacity needs to be strengthened in some areas such as asset management and maintenance, monitoring of resettlement, and socioeconomic and poverty impact. Assistance will be provided under the consulting services.

IV. IMPLEMENTATION SCHEDULE

15. Preconstruction activities—detailed design, preparation of bidding documents, prequalification of contractors, and tendering and awarding of contracts—began in October 2005. Preconstruction activities are targeted for completion in September 2006. Preliminary design was completed in November 2005 and detailed design, in April 2006. The Project will be implemented over about 4 years, from December 2006. The implementation schedule is in Appendix 5.

V. COST ESTIMATES AND FINANCING PLAN DURING IMPLEMENTATION

16. The estimated contract awards during implementation for the ADB loan are in Table 4:

**Table 4: Estimated Contract Awards
(\$ million)**

Component	2007	2008	2009	2010	2011	Total
Civil Works – main road	154.237	145.331	44.141	18.090		361.800
Civil Works – rural roads		10.527	4.512	0.792		15.830
Consulting Services	0.088	0.022	0.044			0.154
Training	0.200	0.376				0.576
Total	154.525	156.256	48.697	18.882		378.360

17. The estimated disbursements of loan proceeds during implementation are in Table 5.

**Table 5: Estimated Disbursements
(\$ million)**

Component	2007	2008	2009	2010	2011	Total
Civil Works – main road	78.554	74.003	22.499	9.214		184.270
Civil Works – rural roads		9.975	4.275	0.750		15.000
Consulting Services	0.088	0.022	0.044			0.154
Training	0.200	0.376				0.576

Total	78.842	84.376	26.818	9.964		200.000
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VI. CONSULTANT RECRUITMENT

18. The Project will finance 7 person-months of international consulting services: 6 person-months for resettlement, socioeconomic, and poverty impact monitoring and evaluation; and 1 person-month for asset management and maintenance. HPCD will engage and finance around 4,900 person-months of national consultants, 300 person-months of which to be allocated to the rural link road component and about 50 person-months to monitoring the Project's resettlement, socioeconomic, and poverty impacts. The international consultants will be financed by the ADB loan and recruited based on simplified technical proposals and the quality- and cost-based selection method in accordance with *Guidelines on the Use of Consultants*. The outline terms of reference is in **Appendix 6**. The national consultants will be financed from domestic resources and will be recruited in accordance with government procedures acceptable to ADB. HPCD will establish eight resident supervision engineer offices for construction supervision, environmental and resettlement monitoring, and project performance monitoring and evaluation.

VII. PROCUREMENT

19. All ADB-financed procurement will follow ADB's *Procurement Guidelines*. Civil works for the main highway component are divided into 26 packages, all to be procured under international competitive bidding (ICB). Civil works for the rural link roads are divided into 14 packages, all to be procured under national competitive bidding (NCB). Equipment contracts valued at \$1 million or less may follow ICB, NCB, or limited international bidding as determined by the particular circumstances of the contract packages. If below \$100,000, equipment may be procured under the shopping procedure. Road safety facilities, greening work, and ancillary facilities, including the administration building, will be procured using NCB. Procurement packages are provided in the procurement plan (**Appendix 7**). International bidding will be conducted by a qualified tendering company, China International Tendering Company (CITC), with experience in externally funded projects. The relevant sections of ADB's anticorruption policy will be included in all documents and contracts related to project bidding and implementation.

20. **Advance Procurement Action and Retroactive Financing.** HPCD started preparing project tender and bid documents for the 26 civil works contracts in April 2006, and all 26 contracts have been approved by ADB for award by November 2006. Because project preparation was advanced, ADB approved HPCD's request for (i) advance procurement action for civil works and related consulting services and (ii) retroactive financing of eligible expenditures up to \$20 million (equivalent to 10% of the ADB loan) prior to the Effective Date of the Loan Agreement, but not earlier than 10 May 2006, or a maximum of 12 months prior to the Effective Date, whichever is later.

VIII. DISBURSEMENT PROCEDURES

21. The loan will be disbursed in accordance with ADB's *Loan Disbursement Handbook*.⁵ Because most of the payments will be made for large contracts (above \$100,000 equivalent), direct payments, reimbursements, and commitment procedures will be used to withdraw loan funds. To facilitate disbursement for small expenditures, HPG will establish an imprest account at a bank acceptable to ADB. Disbursements from the imprest account will be supported by appropriate withdrawal applications and related documentation. Such documentation will demonstrate, among other things, that the goods and/or services are produced in and procured

⁵ ADB. 2001. *Loan Disbursement Handbook*. Manila.

from ADB members, and eligible for ADB financing. The initial amount to be deposited into the imprest account will not exceed \$3,000,000. If government funds are used for eligible expenditures, ADB's reimbursement procedure will be followed. To expedite the flow of funds, the statement of expenditures procedure may be used to reimburse eligible expenditures for any individual payment not exceeding \$200,000 equivalent.

22. Disbursement procedures to be used for each loan category are as follows:

Loan Category	Disbursement Procedure
Civil Works	Reimbursement, Imprest account
Consulting Services	Direct Payment

IX. PROJECT MONITORING AND EVALUATION

23. To demonstrate the effectiveness of its operations and to be accountable for its performance to stakeholders, ADB uses the project performance management system. The monitoring will focus on a few key representative communities. A basic monitoring framework was constructed for the Project to permit a more definitive assessment of the actual benefits. HPCD has concurred with (i) the monitoring framework, (ii) the set of indicators to be used for monitoring and evaluating the Project's impacts, and (iii) the selection of the six representative villages in the project area. The indicators were selected based on the findings of an ADB-financed TA.⁶ The baseline values for the indicators were established, where available, during project preparation, and will be updated at project inception. The indicators will be measured at project completion and biennially for 6 years after completion. The poverty and socioeconomic impact monitoring tasks will require 6 person-months of international expertise to define the monitoring framework and to train domestic consultants in monitoring methodology; and 50 person-months of domestic expertise in database management, village surveys, analysis, and reporting, for which HPCD will recruit an independent local institute by 2007. The project highway and rural link roads will be given the same degree of attention as regards impact monitoring. HPCD and local governments have assured ADB that monitoring in the selected communities will be adequately carried out (**Appendix 8**).

X. SAFEGUARD COMPLIANCES

24. **Resettlement.** The resettlement related activities should be conducted in accordance with the agreed Resettlement Plan submitted HPCD dated 27 March 2006 (**Appendix 9**) and the relevant loan covenants. HPCD will report to ADB on the progress of land acquisition and resettlement progress reports as stipulated in the RP and loan covenants. HPCD agreed to engage an independent monitor to conduct regular investigations and prepare monitoring & evaluation reports to be prepared twice a year during the resettlement implementation and once a year after resettlement completion which will be submitted to HPCD and ADB in a timely manner. As per new PCP requirements, these external M&E reports will be uploaded to ADB website upon receipt.

25. **Environment.** The Project should be implemented in accordance with the Environmental Impacts Assessment (EIA), Summary Environmental Impacts Assessment (SEIA), Soil Erosion Prevention Plan, Environmental Management Plan (**Appendix 10**), relevant Laws and regulations, and ADB's Policy and Environmental Assessment Guidelines, *Environmental Policy*

⁶ ADB. 2002. *Technical Assistance to the People's Republic of China for Socioeconomic Assessment of Road Projects*. Manila.

of the Asian Development Bank (November 2002) and *Environmental Assessment Guidelines* (2003)

26. Environmental monitoring will be carried out during construction and operation. Technical staff as well as some management staff will be trained for environmental monitoring, interpreting monitoring results, planning mitigation, environmental policy making, and other environmental management techniques, to enhance environmental management and assist with capacity building. **Appendix 11** shows the Environmental Monitoring Plan.

27. Environmental monitoring results during both construction and operational stages will be submitted first to the responsible organisations: PUI during construction and HPCD during operation. The PUI will review the monitoring results and, if necessary, decide on further mitigation actions during the construction and operational stages. All results, including additional mitigation actions taken and action results, will also be copied to the EPBs of each county or city involved, as well as Heilongjiang EPB and ADB. These agencies may also request that appropriate actions for environmental mitigation be taken that they consider necessary.

28. **Poverty Reduction and Social Strategy.** The project area covers six counties, of which two are poor by national and provincial standards, and two cities. It had 3.4 million people as of 2004, of whom 2.3 million lived in rural areas. The project highway passes through 1,023 administrative villages, of which 393 (38.4%) are poor. Of the rural population, 391,600 (17.0%) earn an annual per capita income of less than CNY1,300. Of the urban population of 1.1 million, 92,700 (8.4%) are poor. HPCD prepared a social development action plan in collaboration with the local governments. This plan includes measures to mitigate potential adverse impacts and to enhance the Project's benefits to the poor, women, and ethnic minorities (**Appendix 12**).

XI. REPORTING REQUIREMENTS

29. HPCD will submit quarterly progress reports (QPR). Suggested format of QPR to be submitted to ADB is in **Appendix 13**. Within 3 months of project completion, HPCD will submit a project completion report (PCR) to ADB, providing details about implementation, actual costs incurred in relation to cost estimates, benefits, and other information that ADB may request. Suggested contents and format of the EA's PCR are in **Appendix 14**.

XII. AUDITING REQUIREMENTS

30. HPCD will maintain separate accounts and records for the Project and related financial statements. The project accounts and financial statement will be established and maintained in accordance with sound accounting principles and practices as prescribed by the Accounting Law of the PRC, consistently applied by external auditors whose qualifications, experience, and terms of reference are acceptable to ADB. To ensure that internal controls and checks on the project construction costs and operations are effective, HPCD will establish an internal audit unit and will maintain it during project implementation and operation. The unit will independently test day-to-day transactions before referring them to external auditors. The project accounts and annual financial statements will be subject to annual external audit, which will be carried out in accordance with the State Council-approved regulations for auditing (1993) and meet ADB requirements. The annual audit reports will include an auditor's opinion on the use of the loan proceeds and compliance with the financial covenants included in the loan and project agreements. HPCD will submit to ADB within 6 months of the end of each related fiscal year the

Project's audited consolidated financial statements, audited project accounts, audit reports, and management letters in English.

31. Once the auditor for the Project has been appointed, the Borrower and/or the EA should inform ADB and ADB will send an audit letter specifying the financial reporting and auditing requirements under the Project. A sample audit letter is in **Appendix 15**.

XIII. MAJOR LOAN COVENANTS

32. The major loan covenants are in **Appendix 16**.

33. **Condition for Disbursement.** The disbursement of any portion of the loan proceeds for the Project shall be conditional upon receipt by ADB of the Government's certification, in form and substance satisfactory to ADB, that the onlending agreement for the Project, including the terms and conditions consistent with those provided in the Loan Agreement, has been duly executed by and delivered on behalf of HPG and has become effective and binding upon the parties thereto in accordance with its terms.

XIV. KEY PERSONS INVOLVED IN THE PROJECT

34. The list of key persons who are involved in the implementation of the Project from the EA and ADB is attached as **Appendix 17**.

XV. ANTICORRUPTION

35. ADB's anticorruption policy⁷ was explained to and discussed with the Government, HPG, and HPCD. Consistent with its commitment to good governance, accountability, and transparency, ADB reserves the right to investigate, directly or through its agents, any alleged corrupt, fraudulent, collusive, or coercive practices relating to the Project. Provisions of the anticorruption policy are included in the loan regulations and the project bidding documents. In particular, all contracts financed by ADB in connection with the Project will specify the right of ADB to audit and examine the records and accounts of the executing agency and all contractors, suppliers, consultants, and other service providers as they relate to the Project. HPCD will (i) establish a supervisory body to prevent interference in business practices, with adequate resources made available for its effective operation; (ii) involve a leading group of officials from HPCD's Supervision Division in project bidding, construction, and other operational activities; (iii) hold regular briefings between HPCD and the Prosecutor's Office to share information on or warnings about any corrupt practices detected; (iv) periodically inspect contractors' activities in relation to fund withdrawals and settlements; and (v) introduce a dual signing system whereby the civil works contract winner also signs an anticorruption contract with the employer.

⁷ ADB. 1998. *ADB's Anticorruption Policy*. Manila.

RURAL LINK ROADS

1. The Project includes a rural link road improvement program, including poor and ethnic-minority villages. This integrated approach will ensure that the Project benefits the poor and lower-income groups. The Project will finance the upgrading of 22 sections of rural roads, totaling 170 km, while the Heilongjiang Provincial Communication Department will finance 20 sections of rural roads, totaling 389 km in the project area (Tables A7.1–A7.3).

Table A7.1: Project Highway and Rural Link Roads

County	Main Highway	Rural Link Roads	
		No.	km
Linkou	73.48	5	69.85
Fangzheng	47.42	0	0.00
Tonghe	81.55	2	12.95
Tieli	77.20	1	2.40
Qing'an	34.50	2	17.56
Suiling	35.79	5	24.40
Hailun	33.76	4	19.53
Baiquan	44.50	3	23.69
Total	428.20	22	170.37

km = kilometer.

Source: Heilongjiang Provincial Communications Department and TA consultants.

2. The sections were selected based on improving accessibility. Each county put forward candidate sections from their networks, which were reviewed jointly by the Heilongjiang Provincial Communication Department and the counties to select sections that most urgently need upgrading. A brief explanation of why each was chosen follows.

Table A7.2: Project Funded Rural Link Roads

No.	Road Name	County	Length (km)	Road Class	Connecting to			Costs (CNY)
					Town	Villages	Villages	
01	Gucheng	Linkou	1.39	IV	Gucheng	Yicun		693,000
02	Sandaotong	Linkou	27.57	IV	Sandaotong	Tuchengzi	Dabeishun	30,545,500
03	Lianhua	Linkou	34.37	IV	Lianhua	Lianhua	Dongxing	24,049,200
04	Dioling	Linkou	5.98	IV	Dioling	Yuanfa	Sihe	2,989,000
05	Banvtoujiang Place	Linkou	0.56	IV	Dioling	Sanjiazi		6,279,000
06	Malanghe	Tonghe	0.86	IV	Fengshan	Shuangfeng	Malanghe	435,000
07	Taiping Forestry	Tonghe	12.09	IV	Fengshan	Fengyang		6,046,000
08	Taoshan	Tieli	2.40	IV	Taoshan	Aimin		3,826,500
09	Qing'an	Qing'an	2.49	II	Qing'an	Qing'an		9,060,404
10	Qinlao	Qing'an	15.07	IV	Qinlao	Shuguang	Qinli	3,774,250
11	Shangji	Suiling	1.40	IV	Shangji	Shangji	Baotian	699,500
12	Nierhe	Suiling	4.64	IV	Nierhe	Fubei	Weixing	2,321,000
13	Changshan	Suiling	10.62	IV	Changshan	Heyan		4,150,000
14	Houtou	Suiling	5.16	IV	Houtou	Houtou		2,578,000
15	Suiling	Suiling	2.58	II	Kaoshan	Kaoshan		9,336,403
16	Hailun	Hailun	2.14	II	Hailun	Baocheng		7,998,403
17	Qianjin	Hailun	4.45	IV	Qianjin	Shuangquan	Shengli	2,222,500
18	Gonghe	Hailun	11.45	IV	Gonghe	Zhongping	Gonghe	4,180,000
No.	Road Name	County	Length	Road	Connecting to			Costs

			(km)	Class					(CNY)
19	Yonghe	Hailun	1.50	IV	Yonghe	Yonghe			750,000
20	Sandaozhen	Baiquan	2.09	IV	Sandaozhen	Gexin	Fuyi		1,041,800
21	Xinshen	Baiquan	19.60	IV	Xinsheng	Xing'an	Zhaojiadian	Yaofeng Fang	4,510,000
22	Xingguo	Baiquan	2.00	IV	Xingguo	Xingguo			4,510,000
Total project funded			170.37						131,995,460

km = kilometer.

Source: Technical assistance consultants.

Table A7.3: Project Funded Rural Link Roads Additional Data

No.	Road Name	Traffic AADT	Nominal IRI	Density	Influence Area (km ²)	Pop	Selection Reasons
01	Gucheng	1,500	8.0	122.76	13.86	1,701	It links village markets with Linkou town.
02	Sandaotong	500	6.0	61.38	275.65	16,919	It is an important road for Linkou–Fangzheng traffic.
03	Lianhua	250	8.0	30.69	343.65	10,546	It will development along the Mudanjiang river.
04	Dioling	500	6.0	61.38	59.78	3,669	It will connect Diaoling, an important market town, with the main road.
05	Banvtoujiang Place	1,000	8.0	61.38	5.58	342	It is an important historical site that will attract tourists, and thereby help develop the county.
06	Malanghe	500	7.0	82.82	8.61	713	It connects the road to the market town of Malanghe.
07	Taiping Forestry	250	7.0	20.70	120.92	2,504	It is to serve the forestry area and promote tourism.
08	Taoshan	500	7.0	120.11	24.01	2,884	It helps integrate the main road with the existing road network.
09	Qing'an	1,000	8.0	289.63	24.90	7,212	It connects Qing'an city with the main road. An urban road, so class II.
10	Qinlao	500	8.0	72.41	150.68	10,910	It will connect the important agricultural area around Qinlao with the main road.
11	Shangji	250	8.0	77.87	13.99	1,089	It will connect the important agricultural area around Shangji with the main road.
12	Nierhe	250	8.0	77.87	46.42	3,615	It will connect the important agricultural area around Nierhe with the main road
13	Changshan	250	8.0	77.87	106.20	8,269	It will connect the important agricultural area around Changshan with the main road
14	Houtou	250	8.0	77.87	51.56	4,015	It will connect the important agricultural area around Houtou with the main road
15	Suiling	1,500	7.0	77.87	25.82	2,011	It connects Suiling city with the main road. An urban road, so class II.
16	Hailun	1,500	6.0	176.04	21.36	3,760	It connects Hailun city with the main road. An urban road, so class II.
17	Qianjin	250	8.0	176.04	44.45	7,825	It will connect the important agricultural area around Qianjin with the main road.
18	Gonghe	500	8.0	176.04	114.45	20,148	It will connect the important agricultural area around Gonghe with the main road.
19	Yonghe	250	8.0	176.04	15.00	2,641	It will connect the important agricultural area around Yonghe with the main road.
20	Sandaozhen	500	6.0	157.81	20.88	3,295	It will connect Sandaozhen town with the main road.
21	Xinshen	500	8.0	157.81	195.97	30,925	It will allow the exploitation of forests and therefore aid development.
22	Xingguo	250	8.0	157.81	20.00	3,156	It will connect the important agricultural area around Xingguo with the main road.

AADT = average annual daily traffic, IRI = international roughness index, km² = square kilometer.

Source: Technical assistance consultants.

ROAD MAINTENANCE

1. The Heilongjiang Provincial Highway Bureau is responsible for maintaining the national and provincial highways in Heilongjiang. County communication bureaus supply labor and equipment to the Heilongjiang Provincial Highway Bureau local offices. Cities, counties, and forestry bureaus are responsible for maintaining national, provincial, and other roads that pass through the counties.

A. Maintenance Costs and Resources

2. The estimated routine maintenance costs per km every year for classes I, II, III, and IV are CNY30,000, CNY15,000, CNY11,500, and CNY8,000. For each class, periodic maintenance costs per km for every 9 years are CNY1.0 million, CNY0.5 million, CNY0.375 million, and CNY0.25 million. Grants for maintenance from the Heilongjiang Provincial Communications Department (HPCD) to local governments are CNY65,000 per km per year for class-I roads, CNY31,000 per km per year for class II, CNY7,200 per km per year for the rest. Each county is given grants according to the length of each road class. A shortfall in funds is common, which could result in less-than-ideal roads.

B. Road Condition

3. Road conditions vary among counties because of the available materials: Linkou and Tonghe have good gravel, while Baiquan and Hailun must haul it over 100 km. Gravel roads in Linkou, Fangzheng, and Tonghe are in good condition and well graded, while those in Qing'an, Suiling, Hailun, and Baiquan have many potholes and are much rougher (Table A8.1).

Table A8.1: Road Conditions

Section	County	Existing Road	Pavement Type	Indicator of roughness index	Condition
Linkou Bypass	Linkou	S309	AC	5.87	Fair
Jintang to Daluomi	Linkou	S309	Gravel	6.07	Good
Jintang to Daluomi	Fangzheng	S309	Gravel	6.00	Good
Fangzheng to Tonghe	Fangzheng	S203	AC and PC	5.10	Fair
Tonghe to Tieli	Tonghe	S203	Gravel	6.68	Fair
Tonghe to Tieli	Tieli	S203	Gravel	7.92	Poor
Qing'an to Suiling	Qing'an	G171	Gravel	8.61	Poor
Qing'an to Suiling	Suiling	G171	Gravel	7.12	Poor
Hailun to Baiquan	Hailun	G023	Gravel	7.59	Poor
Hailun to Baiquan	Baiquan	G023	Gravel	7.61	Poor

AC, = asphalt concrete, PC = cement concrete.

Source: Technical assistance consultants' estimates.

C. Issues and Problems

4. Adequate maintenance is crucial to ensure the sustainability of rural roads. Local administrative units are responsible for such maintenance, but the quality of rural roads does not seem to be systematically monitored by the higher authorities. Maintenance planning often hinges on a subjective assessment, mainly because of the local government's inability to maintain its road networks because of lack of resources. While local authorities draft plans for routine maintenance work, periodic maintenance is budget-driven and lacks a systematic, preventive approach.

5. The maintenance system for class-II roads or above seems reasonable. However, there is no official funding channel to maintain township or village roads, which are mostly in class IV or below, or a system to enable provincial governments to fund rural road development. A reliable funding mechanism to maintain and rehabilitate rural roads must be designed. Since funds for maintenance are limited, a simple method to evaluate and prioritize maintenance must also be established to streamline work programming and make the most effective use of funds.

6. Apart from financial constraints, local governments' maintenance efforts are often hampered by a lack of qualified technical and managerial personnel, training resources, and equipment. Local governments must develop the capacity to contract out road maintenance. In tandem, start-up assistance must be extended to local road maintenance contractors in rural areas, ways to create jobs for the rural poor identified, and a suitable performance monitoring system put in place.

7. A major problem is pavement damage from overloaded trucks. As trucks have become bigger, the problem will continue. Although the Ministry of Communications does have axle load limits, these are not enforced partly because suitable truck-weighing equipment is lacking. Suitable weighing machines must therefore be installed at each of the nine toll stations, and systematic checks carried out for overweight vehicles. Other maintenance equipment recommended for procurement include snow removal vehicles, graders, loaders, pavement patch mobile mixers, rollers, tankers, generators, cherry pickers, mobile axle load measurement, and emergency tow trucks.

D. Recommendation

8. During project preparation, an action plan (Table A8.2) was established to strengthen local road maintenance. The action plan was agreed with HPCD. Following the plan, HPCD will develop and implement a sound road maintenance management system during project implementation. The system will have (i) measures that minimize maintenance costs; (ii) a modern method to prioritize evaluation and maintenance for efficient work programming and fund use; (iii) a compilation of road inventories, together with basic data on the condition of the roads; and (iv) a monitoring system to be used by local residents. HPCD will encourage county governments to adopt competitive bidding among maintenance contractors to enhance efficiency. The Project will provide a training program to strengthen the capacity of local government maintenance units.

Table A8.2: Action Plan

Activity	Requirements
Classified Roads	Develop a functional classification for the road system Determine the importance of each road in the overall road network Establish a road condition system Develop road maintenance work priorities Assign a cost for each activity and define overall cost
Bridges	Carry out the same process for the maintenance of bridges
Unclassified Roads	Provide basic funding and technical advice to help maintenance of unclassified roads Provide basic materials to the small communities
Capacity Building	Assign the Communications College to carry out capacity building and ongoing training to enhance local capacity
Fund	Optimize the maintenance fund, and ensure the sustainability of the road networks

Source: Technical assistance consultants' estimates.

DETAILED COST ESTIMATE BY FINANCIER
(\$ million)

Item	Cost	ADB		China Development Bank		MOC and HPG	
		Amount	% of Cost Category	Amount	% of Cost Category	Amount	% of Cost Category
A. Investment Costs							
1. Civil Works							
Mainline Roads	361.80	184.27	51	148.80	41	28.73	8
Link Roads	15.83	15.00	95	0.00	0	0.83	5
2. Land Acquisition and Resettlement	32.64	0.00	0	0.00	0	32.64	100
3. Equipment	3.79	0.00	0	0.00	0	3.79	100
4. Supervision and Training	9.29	0.73	8	0.00	0	8.57	92
5. Project Preparation and Design Administration	19.80	0.00	0	0.00	0	19.80	100
6. Taxes and Duties	11.98	0.00	0	0.00	0	11.98	100
Total Base Cost (A)	455.15	200.00	44	148.80	33	106.34	23
B. Contingencies							
1. Physical	21.90	0.00	0	0.00	0	21.90	100
2. Price	19.44	0.00	0	0.00	0	19.44	100
Subtotal (B)	41.34	0.00	0	0.00	0	41.34	100
C. Financing Charges During Implementation	28.07	0.00	0	0.00	0	28.07	100
Total Project Costs	524.55	200.00	38	148.80	28	175.75	34

ADB = Asian Development Bank; MOC=Ministry of Communications; HPG=Heilongjiang Provincial Government.
Source: Asian Development Bank estimates.

Project Organization Chart

**Heilongjiang Province Jixi-Nehe Road Construction Project
Linquan Project Construction Management Office**

Director, PIU: Wang Biao

Vice Director, PIU: Liu Furan-----Engineering
Shi Yunlong-----Engineering
Li Kai----- Administration, Coordinating

General engineer: Wang Hao----- Technology

Engineering Secretary: Mi Hailin

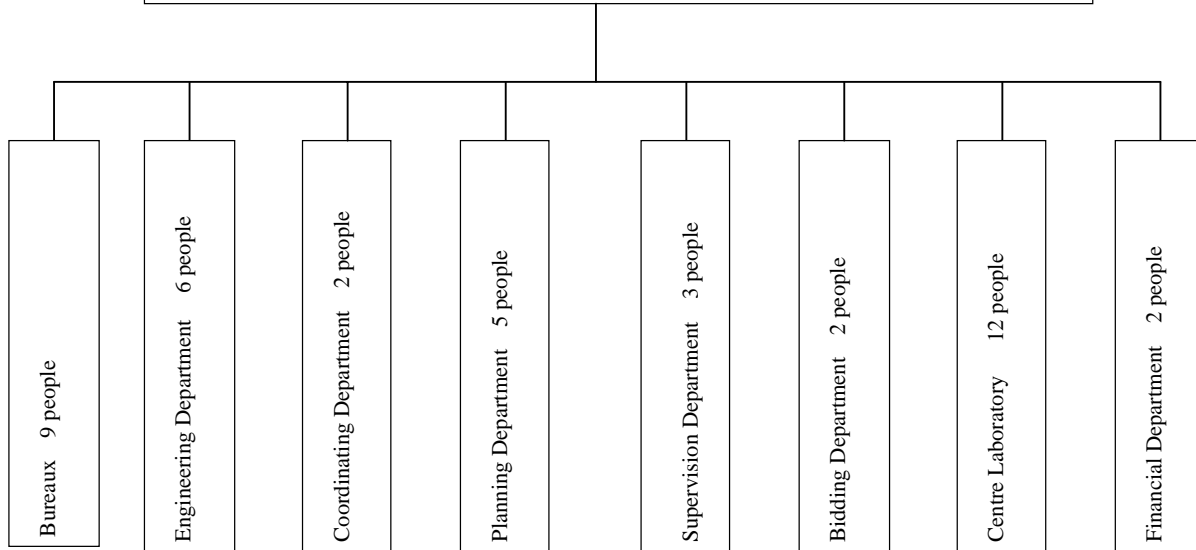
Supervision Secretary: Yao Hui

Planning Secretary: Teng Shubin

Coordinating Secretary: Li Jiaguo

Financial Department: Zhang Qingren

Office Director: Kou Xiaofeng



OUTLINE TERMS OF REFERENCE FOR CONSULTANTS

A. Objectives

1. International and domestic consultants will assist the Executing Agency (EA) in ensuring that (i) designs are carried out to the appropriate engineering standards; (ii) all work associated with the project are carried out in full compliance with the designs and specifications; (iii) the EA's engineers and domestic consultants receive in-country and international training in selected areas of expressway engineering and management; (iv) resettlement, social, environmental, road safety, vehicle emissions, and monitoring are implemented in accordance with the recommendations of various studies, plans, analysis of the project. A total of 7 person months are required for international consultants and an estimated 4,900 person months for domestic consultants. The international consultants will be engaged under ADB financing.

B. Scope of Services and Staffing Requirements

1. Domestic Consultants

2. The domestic consultants recruited to develop and implement the PPMS will collect and analyze a set of indicators for evaluating project performance against project objectives, purposes, and outputs. A baseline survey will be conducted at the beginning of project implementation, and follow-up surveys at project completion, and one year and three years after completion. Data collected during and after implementation will be compared with the baseline data and the target values to be established by the EA and agreed upon with the Asian Development Bank (ADB) before the works start. The main indicators to be monitored include (i) economic development and poverty indicators at the municipality level and for each county in the project area; (ii) transport costs and time for specific types of vehicles and trips; (iii) transport services and charges; (iv) accident rates; (v) air quality; (vi) financial indicators of the expressway operating company; (vii) township incomes per capita; (viii) access to social services, and (ix) jobs created during construction and maintenance, and (x) SAP implementation. Where relevant, indicators will be disaggregated by gender, income and ethnic group, using the poverty stratum absolute poor, poor and non-poor. The data collection method will consist of (i) reviewing secondary data from local government statistics; (ii) conducting household socioeconomic sample surveys; and (iii) developing participatory rural appraisal methods among communities affected by the expressway and the feeder roads. About 24 person-months of domestic consultants specializing in socioeconomic and transport fields will be required to develop and implement the PPMS.

3. The consultants will be recruited in accordance with the EA's procedures acceptable to ADB.

4. Construction supervision activities will include the following:

- (i) Assist the EA with contractors' applications for subcontracting parts of the civil works, by reviewing ambiguities and discrepancies in contract documents, and in settling disputes with contractors.
- (ii) Ensure that all required data for setting out the civil works are provided.
- (iii) Help the EA on drawings quality, and advise the EA on further drawing or instructions to the contractors.
- (iv) Assist the EA to review the contractors' organizational arrangements, key personnel and construction programs, materials, and sources of materials.

- (v) Monitor the progress of the works against programmed targets, advise the EA on measures to be taken to improve progress and quality, review and advocate proposed variation orders, determine rates for works, and decide on alternatives.
- (vi) Inspect the quality of the works in terms of workmanship and compliance with specifications; order, supervise, or perform tests on materials and civil works; advise on approval or disapproval of the contractors' plan and equipment; propose, if required, the uncovering of completed civil works and the removal and replacement of improper material and works.
- (vii) Check the progress of civil works, examine and review sampling measurements of any work that is about to be covered or put out of view before permanent work is placed thereon, examine the measurements of the completed civil works, and (as directed by the EA) order the initiation of additional civil works that are part of the contract.
- (viii) Supervise the contractors in all matters concerning safety and care of civil works including the provision of necessary lights, guardrails, fencing, and security.
- (ix) Examine the contractors' accounts, invoices, claims, and other statements for errors in complying with the contract, and suggest and make corrections.
- (x) Advise the Chief Engineer on how and when to issue certificates of payment to the contractors and certify the completion of the civil works or parts thereof.
- (xi) Monitor progress with the implementation of the Social Action Plan (SAP) and provide advice to the EA, relevant local government authorities and the ADB on how the poverty reduction enhancement impact of the SAP can be increased.
- (xii) Provide advice, help and supervision for the local government authorities to facilitate implementation of the local roads program.

5. The major positions in the Domestic Consultancy Team are the following.

6. **Chief Engineer:** will be a graduate engineer or the equivalent, with at least 20 years of practical experience in supervision and administration of major road and bridge contracts and have minimum five years as a project manager or chief engineer of a similar project. The Chief Engineer will in charge of the operation of all aspects of the Project. The Chief Engineer will report directly to the EA.

7. **Senior Resident Engineers** of which there will be eight must be graduate engineers or the equivalent, with at least 15 years of years of practical experience in supervision and administration of major road and bridge contracts and have minimum five years as a resident engineer of a similar project. The Senior Resident Engineers will be responsible for all the Construction Contracts in their area and ensure that the resident engineers under them fulfil their supervision duties. They will report directly to the Chief Engineer.

8. **Resident Engineers** of which there will be twenty-six must be graduate engineers or the equivalent, with at least 10 years of years of practical experience in supervision and administration of major road and bridge contracts and have minimum three years as a resident engineer of a similar project. The Resident Engineers will be responsible for the supervision of the Construction Contract that they are assigned to and that all staff under them fulfil their assigned supervision duties. The resident engineers will report to their respective senior resident engineer.

9. **Senior Bridge Engineer** of which there will be one must be a graduate structural engineer or the equivalent, with at least 15 years of years of practical experience in supervision and administration of major road and bridge contracts and have minimum five years as a senior

bridge engineer of a similar project. The Senior Bridge Engineer will ensure that the design and construction of the project structures are built according to the contract and all prevailing codes and specifications. The Senior Bridge Engineer (SBE) will supervise and direct the activities of bridge engineers. SBE will report to the Chief Engineer and work with the Senior Resident Engineers.

10. **Bridge Engineers** of which there will be eight must be graduate structural engineers or the equivalent, with at least 10 years of years of practical experience in supervision and administration of major road and bridge contracts and have minimum three years as a bridge engineer of a similar project. The Bridge Engineers will ensure that the design and construction of the project structures are built according to the contract and all prevailing codes and specifications. The Bridge Engineer will supervise and direct the structural activities of construction. The Bridge Engineer will report to the Senior Bridge Engineer and work with the Resident Engineers.

11. **Senior Pavement Engineer** of which there will be one must be a graduate engineer or the equivalent, with at least 15 years of years of practical experience in supervision and administration of major road and bridge contracts and have minimum five years as a senior pavement engineer of a similar project. The Senior Pavement Engineer will ensure that the design and construction of the project pavements are built according to the contract and all prevailing codes and specifications. The Senior Pavement Engineer (SPE) will supervise and direct the activities of pavement engineers. SPE will report to the Chief Engineer and work with the Senior Resident Engineers.

12. **Pavement Engineers** of which there will be eight must be graduate engineers or the equivalent, with at least 10 years of years of practical experience in supervision and administration of major road and bridge contracts and have minimum three years as a pavement engineer of a similar project. The Pavement Engineers will ensure that the design and construction of the project pavement structures and mixes are built according to the contract and all prevailing codes and specifications. The Pavement Engineer will supervise and direct the pavement activities of construction. The Pavement Engineer will report to the Senior Pavement Engineer and work with the Resident Engineers.

13. **Safety Engineer** of which there will be one must be a graduate engineer or the equivalent, with at least 10 years of years of practical experience in supervision and administration of major road and bridge contracts and have minimum five years as a safety engineer of a similar project. The Safety Engineer will ensure that the design and construction of the project are built according to the contract and all prevailing codes and specifications. The Safety Engineer will audit the design and make suggestions to improve the safety of the project. The Safety Engineer will report to the Chief Engineer and work with the Senior Resident Engineers.

14. **Senior Resettlement Expert** of which there will be one must be a graduate or the equivalent, with at least 15 years of years of practical experience in resettlement and supervision and administration of major road and bridge contracts and have minimum five years as a senior resettlement expert of a similar project. The Senior Resettlement Expert will ensure that the resettlement activities of the project are done according to the contract and all prevailing codes and laws. The Senior Resettlement Expert will supervise the other resettlement experts and will report to the Chief Engineer and work with the Senior Resident Engineers.

15. **Resettlement Expert** of which there will be eight must be graduates or the equivalent, with at least 10 years of years of practical experience in resettlement and supervision and administration of major road and bridge contracts and have minimum five years as a senior resettlement expert of a similar project. The Resettlement Expert will ensure that the resettlement activities of the area assigned are done according to the contract and all prevailing codes and laws. The Resettlement Expert will supervise the resettlement activities and will report to the Senior Resettlement Expert and work with the Resident Engineers.

16. **Chief Payment Engineer** of which there will be one must be a graduate engineer or the equivalent, with at least 15 years of years of practical experience in supervision and administration of major road and bridge contracts and have minimum five years as a chief payment engineer of a similar project. The chief payment engineer will ensure that the measurement and payments of the project are according to the contract and all prevailing codes and specifications. The chief payment engineer will supervise and direct the activities of the payment engineers and will report to the Chief Engineer and work with the Senior Resident Engineers.

17. **Payment Engineers** of which there will be eight must be a graduate engineer or the equivalent, with at least 10 years of years of practical experience in supervision and administration of major road and bridge contracts and have minimum three years as a payment engineer of a similar project. The payment engineer will ensure that the measurement and payments of the contract payments are according to the contract and all prevailing codes and specifications. The chief payment engineer will supervise and direct the measurement and payments activities of the and will report to the Chief Payment Engineer and work with the Resident Engineers.

18. **Benefits Monitoring Expert** of which there will be one must be a graduate or the equivalent, with at least 15 years of years of practical experience in benefits monitoring and social-poverty assessments and administration of major road and bridge contracts and have minimum five years as a benefits monitoring expert of a similar project. The Benefits Monitoring Expert will ensure that the benefits and costs of the project are assessed according to the contract and all prevailing codes and laws. The Benefits Monitoring Expert will help and be helped by all the other supervision staff and will report to the Chief Engineer and work with the Senior Resident Engineers.

19. **Local Road Chief Engineer** of which there will be one must be a graduate engineer or the equivalent, with at least 15 years of years of practical experience in supervision and administration of major road and bridge contracts and have minimum five years as a resident engineer of a similar project. The Local Road Chief Engineer will be responsible for all the Construction Contracts in the link roads and ensure that the local road engineers under them fulfil their supervision duties. They will report directly to the Chief Engineer.

20. **Local Road Engineer** of which there will be fourteen must be graduate engineers or the equivalent, with at least 10 years of years of practical experience in supervision and administration of major road and bridge contracts and have minimum three years as a resident engineer of a similar project. The Local Road Engineer will be responsible for the supervision of the Construction Contract that they are assigned to and that all staff under them fulfil their assigned supervision duties. The local road engineers will report to the Chief Local Road Engineer.

2. International Consultants

25. The international consultants will act as adviser to the EA, and support and assist staff and domestic consultants in the performance of their duties. Six person months of international consulting services will be required to provide advisory services for resettlement, socioeconomic and poverty impact monitoring and evaluation. One person month is required for asset management and maintenance management operations and drafting TOR for Operation and Maintenance Concession.

26. **The International Benefit Monitoring and Evaluation Specialist** of which there will be one must be a graduate or the equivalent, with at least 15 years of years of practical experience in resettlement and supervision and administration of major road and bridge contracts and have minimum five years as a benefit monitoring and evaluation specialist of a similar project. The Benefits Monitoring Expert will ensure that the benefits and costs of the project are assessed according to the contract and all prevailing codes and laws.

27. The main indicators to be monitored include (i) economic development and poverty indicators at the municipality level and for each county in the project area; (ii) transport costs and time for specific types of vehicles and trips; (iii) transport services and charges; (iv) accident rates; (v) air quality; (vi) financial indicators of the expressway operating company; (vii) township incomes per capita; (viii) access to social services, and (ix) jobs created during construction and maintenance, and (x) SAP implementation. Where relevant, indicators will be disaggregated by gender, income and ethnic group, using the poverty stratum absolute poor, poor and non-poor. The data collection method will consist of (i) reviewing secondary data from local government statistics; (ii) conducting household socioeconomic sample surveys; and (iii) developing participatory rural appraisal methods among communities affected by the expressway and the feeder roads.

28. The Benefits Monitoring and Evaluation Specialist will help and be helped by all the domestic consultants and the EA. The Benefits Monitoring and Evaluation Specialist will be recruited for 3 months to produce the BME report in accordance with the bank's procedures and requirements. The BME report will evaluate the overall benefits of the project road in terms of the bank objectives.

29. **International Resettlement Expert** of which there will be one must be a graduate or the equivalent, with at least 15 years of years of practical experience in resettlement and supervision and administration of major road and bridge contracts and have minimum five years as a senior resettlement expert of a similar project. The Senior Resettlement Expert will ensure that the resettlement activities of the project are done according to the contract and all prevailing codes and laws. The international resettlement specialist will be recruited for 3 months to advise the HPCD and monitor the resettlement activities and produce a report in accordance with the bank's procedures and requirements. The report will evaluate the overall resettlement along the project road in terms of the bank objectives and requirements.

30. **International Asset Management and Maintenance Management Specialist** of which there will be one must be a graduate engineer or the equivalent, with at least 15 years of years of practical experience in supervision and administration of major road and bridge contracts and have minimum five years as an asset management and maintenance management specialist of a similar project. The asset management and maintenance management specialist will be

recruited for 1 month to assist the HPCD in establishing an asset management and maintenance management system in the province.

3. Records and Reports

31. The construction supervision consultants will maintain records of implementation progress, contract variations, and design revisions for incorporation in the drawings for the final works. They will also (i) assist the EAs in preparing progress and financial status reports, and a final project completion report; (ii) certify, where required by the EAs, interim and final payments; (iii) give the EAs technical and engineering advice on the day-to-day project activities; (iv) keep records of all works done, and prepare monthly and quarterly progress reports; (v) prepare, before the works start, a project implementation schedule based on the contractors' work programs; and (vi) keep records of all payments approved and report the same in the monthly progress reports. The monthly reports will cover a description of the activities, the progress charts, the expenditure records, and implementation-related issues and the suggested remedial actions. The monthly reports will be consolidated into quarterly reports comparing the actual and originally anticipated work program.

32. Upon completion of their short-term inputs, the international consultants will prepare for each relevant technical area, progress reports giving intermediate findings and recommendations. Upon completion of their services, the international consultants will submit a final report covering the work performed, and highlighting findings and recommendations to the EA. Copies of these reports and actions taken should be provided to ADB.

4. Support Services for the International Consultants

33. The EA will make the following available to the international consultants: (i) administrative assistance in obtaining visas, customs clearance, and any other administrative permits required to perform their duties; (ii) all relevant reports; documents relating to the assignment; (iii) appropriate and suitably qualified counterpart staff; (iv) suitable office accommodations, and secretarial and clerical support; and (v) local transportation, including a driver, at the various project sites. Counterpart staff and the number of vehicles will be agreed upon with the EAs before the services start.

PROCUREMENT PLAN

No.	Start	End	Length (km)	Estimated Cost		Procurement Mode
				CNY (million)	\$ (million)	
A. Main Road Civilworks						
C1	K63+152.2~K77+231.2		13.12	77	9	ICB
C2	K116+000~K134+370		18.37	117	14	ICB
C3	K134+370~K152+876		18.18	110	14	ICB
C4	K153+436~K179+000		25.56	120	15	ICB
C5	K179+000~K204+587		25.59	118	15	ICB
C6	K245+490~K263+731		16.54	119	15	ICB
C7	Songhua River Bridge (1)		1.41	226	28	ICB
C8	Songhua River Bridge (2)		1.17	246	30	ICB
C9	K266+347~K285+500		19.15	119	15	ICB
C10	K285+500~K309+400		23.80	120	15	ICB
C11	K309+400~GK333+100		23.53	121	15	ICB
C12	GK333+100~GK351+000		17.90	119	15	ICB
C13	GK351+000~GK378+600		27.60	120	15	ICB
C14	GK378+600~K386+200		23.51	120	15	ICB
C15	K386+200~K408+674.9		22.19	117	14	ICB
C16	K433+600~K457+000		22.51	114	14	ICB
C17	K457+000~K480+000		23.00	108	13	ICB
C18	K480+000~K503+893.1		23.18	108	13	ICB
C19	K543+267.9~K563+000		19.73	108	13	ICB
C20	K563+000~K581+000		18.00	112	14	ICB
C21	K581+000~K601+329		20.17	114	14	ICB
C22	K601+329~K621+528.7		20.00	117	14	ICB
C23	K66+723,K76+296 Railway OV		0.98	41	5	ICB
C24	K407+615,K437+265,K500+630 Railway OV		0.81	37	5	ICB
C25	Wusihun River Main Bridge		0.82	35	4	ICB
C26	Hulan River Main Bridge		1.08	49	6	ICB
	Subtotal (A)		428	2,911	360	
B. Equipment				15	1.8	Government Procedure
C. Building				53.1	6.6	NCB
D. Safety Facilities				41.8	5.2	NCB
E. Administration Facilities and Greening				48.0	5.9	NCB
F. Link Roads				110.4	13.7	NCB
G. Consulting Services					0.15	QCBS with STP
Total				3,179.3	393.6	

ICB = international competitive bidding, km = kilometer, LIB = limited international bidding, NCB = national competitive bidding, STP = simplified technical proposal, QCBS = quality- and cost-based selection.

Source: Asian Development Bank estimates.

MONITORING OF SOCIOECONOMIC AND POVERTY IMPACTS

1. The Project will lower transport costs and reduce travel time, and thus improve transport quality. Better road infrastructure and services will encourage villagers to go to markets, use educational and health facilities more frequently, and avail themselves of increased agricultural extension services. These benefits, which accrue directly to road users, are the Project's direct effects. Improved access will expand economic activities and gradually lead to structural changes in production and consumption patterns and in the labor market. Lower transport costs reduce the costs of traded farm inputs, thereby raising agricultural productivity and profitability. Cropping patterns change with better roads, as farmers shift to high-value crops because of easier access to markets and new farming technologies. Better roads help increase nonfarm jobs, raise wages, and reduce transaction costs, thereby spurring commercial activities. In turn, higher incomes boost local people's demand for transport and the movement of goods and services. These are the benefits that trickle down to local people over time. Even the rural poor who rarely use roads also benefit from improved roads through cheaper goods and services and increased economic opportunities. These are the Project's indirect effects.

A. Monitoring Framework

2. Based on the findings of an Asian Development Bank (ADB) technical assistance, a standard monitoring framework and a set of monitoring indicators were designed to measure the actual benefits (Table 1). The indicators were chosen to assess the hypothesized flow of project benefits. Monitoring will focus on a few representative communities in the project area.¹

Table 1: Monitoring Framework: Indicators and Mechanism

Timing of Benefits or Outcomes	Monitoring Indicators	Monitoring Mechanism
A. Immediately Upon Project Completion		
Reduced travel time	Travel time to county center	Village survey
B. Short-Term (within 1–3 years)		
1. Lower transport costs	Increased traffic volumes along the corridor	Local statistics
	Bus and freight fares	Village survey
2. Improved transport services	Villages with bus services	Village survey
	Bus frequency to villages	Village survey
3. Changes in producer prices	Fertilizer prices	Household survey
4. Increased economic activities	Vehicle ownership	Village survey
	Transport expenses	Household survey
	Frequency of visits to markets	Household survey
	Increased trade in the region	Local statistics
5. Increased access to social services	Travel time to the nearest school and clinic	Middle Village survey
	school dropout rates (boys, girls)	Village survey
	Frequency of visits by doctors	Village survey
C. Medium-Term (within 3–5 years)		
1. Developed nonfarm sector	Income from nonfarm sector	Household survey
	Number of small business enterprises	Village survey
	Income from tourism (restaurants, etc.)	Household survey
	Number of tourists in the area	County statistics
2. Increased agricultural extension services	Cash crops (percentage of total crops)	Household survey
	Frequency of visits by agricultural technicians	Village survey
3. Increased rural incomes	Number of new or renovated houses	Village survey
	Rural income	Statistics/village survey
4. Reduced poverty incidence	Poverty rate	Village level

Source: ADB. 2002. *Technical Assistance for Socioeconomic Assessment of Road Projects*. Manila.

¹ Fuye village (Sandao town, Baiquan county), Xing'an village (Xin'sheng township, Baiquan county), Shengli village (Qianjin township, Hailun city), Minzu village (Shangji town, Suiling county), Xujia village (Diaolin town, Linkou county), Shuguang village (QinLao town, Qing'an county), Tongle village (Tongle township, Qing'an county), Malanhe village (Fengshan town, Tonghe county), Huoju village (Tonghe town, Tonghe county).

B. Implementation of Monitoring

3. The baseline values for the indicators were established during project preparation, and will be updated at project inception (Table 2). The indicators will be measured at project completion and biennially for 6 years after completion. The poverty and socioeconomic impact monitoring tasks will require 6 person-months of international expertise, and 50 person-months of domestic expertise—for which HPCD will recruit an independent local institute by 2007. HPCD has assured ADB that monitoring will be adequate.

Table 2: Baseline Data of the Monitoring Indicators

Baseline Data/Indicators	Linkou County	Tonghe County	Qing'an County
	Diaoling Township	Tonghe Township	Tongle Township
	Xujia Village	Huoju Village	Tongle Village
Distance to township center (km)	12	2.5	3
Increased traffic volumes along the corridor	—	—	—
Bus and freight fares	CNY3 to township	—	CNY1 to township
Villages with bus services (%)	—	—	—
Bus frequency to county center (buses/day)	2	—	2
Fertilizer prices	—	—	—
Vehicle ownership (%)	60	90	30
Transport expenses (%)	5	5	5
Frequency of visits to county markets	4 times a year	—	6 times a year
Frequency of visits to township markets	4 times a month	—	6 times a month
Dropout rates from middle school (%)	2	2	2
Frequency of visits by doctors	Resident doctor	Resident doctor	Resident doctor
Income from nonfarm sector (%)	30	40	40
Number of nonfarm enterprises	3	8	16
Monthly income from tourism restaurants (CNY)	—	—	—
Number of tourists	no tourists	no tourists	No tourists
Vegetables (percentage of arable area)	5%	5%	5%
Frequency of visits by agricultural technicians	once every 6 months	once every 6 months	once every 6 months
No. of new or renovated houses (%)	5	2	5
Rural income (CNY) per year	2,400	3,000	2,300
Poverty rate (%)	10	5	15
Baseline Data/Indicators	Suiling County	Hailun County	Baiquan County
	Shangji Township	Qianjin Township	Xinsheng Township
	Minzu Village	Shengli Village	Xing'an Village
Distance to township center (km)	6	4	5
Increased traffic volumes along the corridor	—	—	—
Bus and freight fares	CNY5 to Suiling	CNY100 to Hailun	CNY40 to Sandao
Villages with bus services (%)	—	—	—
Bus frequency to county center (buses/day)	4	—	—
Fertilizer prices	—	—	—
Vehicle ownership (%)	20	28	15
Transport expenses (%)	10	5	5
Frequency of visits to county markets	6 times a year	6 times a year	6 times a year
Frequency of visits to township markets	4 times a month	4 times a month	4 times a month
Dropout rates from middle school (%)	2	2	2
Frequency of visits by doctors	Once a year	Resident doctor	Resident doctor
Income from nonfarm sector (%)	70	10	10
Number of nonfarm enterprises	4	1	5
Monthly income from tourism restaurants (CNY)	2,000–3,000	—	—
Number of tourists	1,000 a year	0	0
Vegetables (percentage of arable area)	5%	50%	5%
Frequency of visits by agricultural technicians	once every 6 months	once every 6 months	once every 6 months
No. of new or renovated houses (%)	2	5	5
Rural income (CNY) per year	12,000	2,600	1,100
Poverty rate (%)	5	10	70

— = not available, CNY = yuan, km = kilometer, mu = unit of area commonly used in the PRC (15 mu = 1 hectare).

Source: Heilongjiang Provincial Communications Department and technical assistance consultants' estimates.

SUMMARY RESETTLEMENT PLAN

1. The Project will upgrade a provincial highway, totaling 428 km, and 170.4 km of rural linking roads. The Project will affect 8 counties, 36 townships, 130 administrative villages, 6 forest bureaus, and 24 forest stations. About 1,391 ha will be permanently acquired, of which 38% of the total is cultivated and 44% forest. Land acquisition will directly affect the equivalent of 5,663 households. Another 428 ha will be temporarily used during construction. A total of 25,034 m² of structures will be demolished. In total, house demolition will affect 201 households and 11 enterprises. To avoid or minimize land acquisition and resettlement, Asian Development Bank (ADB) has closely consulted local officials and affected people and village committees during the preliminary design and preparation of resettlement plan. Ethnic minorities belonging to vulnerable groups will get special assistance in economic rehabilitation and priority for career training. All affected minorities will be relocated in the original villages.

A. Policy and Legal Framework

2. The objective of the resettlement program is to ensure that the affected people will improve their standards of living, or at least not be made worse off by the Project, consistent with the laws and regulations of the People's Republic of China and the ADB's involuntary resettlement policy.¹ The resettlement plan is based on the provisions of the Land Administration Law of 1998 and the new regulations stemming from the State Council Decision to Deepen Reform and Strictly Enforce Land Administration. Heilongjiang Land Administration Regulation and Forest Law also apply to resettlement under the Project.

3. Based on consultations with local governments and those affected, a set of compensation standards, based on the replacement cost, was formulated by Heilongjiang Provincial Communications Department (HPCD) and approved by the Ministry of Land and Resources. The resettlement principles set for the Project follow: (i) land acquisition and involuntary resettlement should be avoided or minimized by developing and comparing a series of design alternatives; (ii) compensation and entitlements are based on market value; (iii) land temporarily occupied and the period for disruption are to be kept to a minimum; (iv) the per capita landholding after land acquisition will be sufficient to maintain the previous livelihood standard; (v) where land allocation per capita is not sufficient to maintain the standard, other income-generating activities will be provided; (vi) a preferential policy will be provided to vulnerable groups, including compensation, housing assignment, transfer assistance, and employment; (vii) all those affected will be adequately informed about details of compensation; and (viii) close monitoring and timely actions will be carried out to identify and resolve any problems.

4. The compensation for permanent arable land acquisition is set at 10 times the annual average output value (AAOV) in the past 3 years, and this is combined with a resettlement subsidy calculated at six times the AAOV for all types of cultivated land. The compensation for forest land includes four parts: reforestation fee, resettlement subsidy, land compensation, and forest compensation. All the compensation for forest land has been paid to the State Forestry Administration, and affected forest bureaus and HPCD have obtained the forest land using approval documents. Any income lost from temporary occupation of land will also be paid in cash to the owner or user at a rate of two times the AAOV. As soon as the construction is completed, the land will be returned to the users and restored to its original form. Housing compensation will be based on the housing area, construction materials, and market prices for replacement value.

¹ ADB. 1995. *ADB's Policy on Involuntary Resettlement*. Manila.

There will be no deduction for depreciation, and owners will be allowed to salvage materials from their old houses. Relocation will provide an opportunity to improve current housing conditions. The households will also receive a transfer and transportation allowance. These households will be relocated to another site within their original village. All infrastructures, facilities, and other assets will be compensated at replacement rates, without any deduction for depreciation, to allow full reconstruction by the owners. For land acquisition, the land compensation will be paid to the affected village committee and the resettlement subsidy will be paid to the affected households. Compensation for standing crops, auxiliaries, and other assets will also be paid directly to affected farmers. For enterprises, compensation will be paid to owners. The payment will be made in cash according to the appraised value of the property. Income losses resulting from reduced production/sales and wages caused by the Project will be compensated in cash.

B. Resettlement and Rehabilitation

5. The resettlement strategy encompasses the restoration of livelihoods and income. Since the impacts are widely dispersed among affected villages and per capita of land holding is higher than in other parts of the country, the actual losses will not be significant and land loss impacts could be mitigated and replaced. Therefore, all affected people will remain in agriculture. They will either be provided with replacement land from the village reserve land or cash compensation. Agricultural measures will include developing new farmland, improving irrigation works, upgrading low-yielding farmland, and provision of training in agricultural technology. Income generation activities such as forestry, horticulture, livestock, and sideline businesses will also be developed to restore incomes and livelihoods for the relocated people. Affected people will be given special preference for jobs during construction and operation. HPCD and relevant county offices will proactively coordinate with local labor bureaus, employment centers, and enterprises to identify job and businesses opportunities for affected people who seek off-farm employment. HPCD will help the resettlers gain information and contacts regarding such opportunities. This assistance will be especially important for agricultural households seeking to diversify their economy through nonagricultural means. All the workers will still work in the same factory after the relocation.

6. Some 659 poor households have been identified as affected by the Project. To ensure their maximum protection during the land acquisition and resettlement process, the following provisions are made: (i) they will be given priority for jobs with the Project; (ii) if they are to be relocated, assistance will be provided by the village committee and local government for house construction; (iii) incorporation of their needs and interests in resettlement planning and implementation will be ensured through consultation and participation programs. During resettlement, the project implementation unit (PIU) will pay particular attention to the difficulties and needs of women and women-headed households and will formulate and implement programs through regular consultations with women. The programs will include the following: (i) women will be given high priority for project jobs; and (ii) special financial incentives will be provided for new small enterprises developed by women from the affected households, according to the preferential policies of local governments. The Project will have no significant adverse impacts on ethnic minorities. There will be partial loss of farmland for 329 minority households, mostly Chaoxian. Besides the standard compensation entitlements, special assistance in economic rehabilitation and career training will be provided to ensure adequate restoration. If any ethnic minority households are displaced, they will be relocated in their original villages. The Chaoxian villages are supportive of the Project because it will increase business investment.

C. Resettlement Cost and Fund Management

7. The cost for land acquisition and resettlement is CNY313 million, including contingencies, taxes, and fees for resettlement administration. According to the compensation policies and standards defined in the resettlement plan, the payment and usage of compensation funds will be carried out under the supervision of the internal monitoring agencies, with regular reviews by the external monitoring agency. Detailed measurement surveys will be conducted in each village, enterprise, and the compensation contracts will be negotiated and signed with village committees, households and enterprises.

D. Information Disclosure, Participation, and Grievance

8. The affected people have been notified and consulted on the key elements of the resettlement plan. On various occasions during interviews, focus group discussions, public consultation workshops, and community consultation, local representatives have participated in the planning and their concerns have been integrated into the resettlement plan. The resettlement information booklet was disseminated to affected households and village offices in February 2006. The information booklet contains the resettlement scope, project schedule, compensation rates for land and other assets, relocation and economic rehabilitation strategies, and grievance redress mechanisms. When grievances arise, the affected people may submit an oral or written complaint first to the village committee. If the village cannot solve the issue, it can be taken to the township government. If the grievance is still unresolved, they can seek redress at the county land administration bureau. The appeal must be replied within 2 weeks. If any affected person is not satisfied or if the complaint is serious, the PIU will try to solve the problem. If the grievance is still not resolved satisfactorily, as a last resort, final redress may be sought in the civil courts, in accordance with the Civil Procedure Act.

E. Institutional Responsibilities, Monitoring and Evaluation, and Schedule

9. The PIU's project resettlement office will coordinate the planning, implementation, internal monitoring and supervision, financing, and reporting of land acquisition and resettlement. County land administration bureaus will be responsible for implementing the resettlement plan. They will work closely with township and village resettlement offices or forest stations, which will be responsible for delivering entitlements, selecting new housing sites, monitoring development of replacement land, and implementing economic rehabilitation measures among affected villages. HPCD and local land bureaus will take full responsibility for the internal monitoring to ensure that the project complies with requirements described in the resettlement plan. An independent monitoring agency will be engaged by HPCD to undertake resettlement monitoring and evaluation for the Project. External monitoring will be undertaken biannually and reported to ADB and HPCD. Once resettlement activities are completed, annual tracer surveys will be conducted to evaluate livelihoods and incomes compared with the baseline survey results. The reports will provide information regarding whether resettlement objectives have been achieved and the relocated families have achieved equal or better livelihoods and living standards. HPCD will engage the external monitor by June 2006. Resettlement implementation is scheduled to precede the project construction schedules. Land acquisition activities commenced in November 2006.

ENVIRONMENTAL MANAGEMENT PLAN

Environmental Issue	Mitigation Measures	References in Law/Contract Documents	Location	Responsible Organization	Time Frame
A. Preconstruction					
1. Environmental specifications for contractor prequalification, technical specifications, environmental clauses for contracts and loan covenant	(i) Prepare environmental prequalification questionnaire for contractor (ii) Prepare environment section in terms of reference for bidders (iii) Prepare environmental contract clauses for contractor, special conditions, e.g., reference environmental management plan (EMP) and monitoring table	Summary environmental impact assessment (SEIA) and environmental impact assessment (EIA)	Entire project	Provincial Communications Department	Before construction begins
2. Environmental awareness education	Training in environment protection, waste management, health and safety, forest fire awareness	Contract terms and conditions, EIA	Entire project	All employees, including management and workers	Before construction starts, ongoing during construction
3. Health and HIV/AIDS ¹ education	Training in health issues, including HIV/AIDS and sexually transmitted infections awareness	Contract terms and conditions, EIA	Entire project	All employees, including management and workers, local villages	Before construction starts, ongoing during construction
4. Soil erosion protection and conservation	Soil erosion prevention plan (SEPP) has been prepared and will be updated to match detailed design. No construction camp, borrow pit, or spoil site allowed in Forest Park	Legal requirement	Project corridor	Provincial Communications Department and Design Institute	Before construction starts
5. Removal of trees	Vegetation replanting layout will be developed for site showing replanting areas, type of vegetation/planting, and maintenance program. Use SEPP as a guide	Legal requirement	Right of way width and additional locations required for compensatory planting	Contractor in consultation with local forestry department and local community	Before ground breaking
6. Land and property acquisition	Information dissemination and community consultation on entitlements based on Land Administration Law Compensation will comply with resettlement plan (RP)	RP and project management	Right of way as defined in RP	County level communications department	Before construction starts on any section
7. Utility relocation	All utilities will be relocated with approval of relevant agencies	Contract specifications	Refer to utility location drawings	County level communications department and contractor	Before construction starts on any section
8. Removal of community utilities	All community utilities, such as wells, will be replaced at suitable locations	RP and contract specifications	Any water sources within construction zone	County level communications department and contractor	Before construction starts on any section
9. Relocation of ancestral graves	Community meetings to be held to locate graves and identify relocation sites	RP and contract specifications	To be defined as part of detailed designs	County level communications department and contractor	Before construction starts on any section

¹ Human immunodeficiency syndrome/acquired immunodeficiency syndrome.

Environmental Issue	Mitigation Measures	References in Law/Contract Documents	Location	Responsible Organization	Time Frame
10. Relocation of irrigation systems	Any relocation of irrigation structures will be discussed and agreed on with village committee and County Water Resources Bureau.	Contract terms and conditions and RP	Any irrigation system located within construction zone or affected by construction	County level communications department and contractor	Before construction starts on any section and before start of irrigation system
11. Possible change of alignment	(i) With a minor deviation in the alignment, the environmental design engineer will propose mitigation measures and incorporate them into the detailed design drawings. (ii) With a major deviation that may cause significant environmental impacts or affect additional people, the Executing Agency will conduct additional environmental assessment, including public consultation. The revised EIA report will be submitted to Heilongjiang Environmental Protection Bureau, following government procedures. (iii) The Executing Agency will determine whether the deviation is minor or major, in consultation with ADB.	SEIA	Entire project	Provincial Communications Department	Before construction starts on any section
12. EMP update	EMP will update when detailed design is completed. In addition, if the design is revised significantly, adequate revision of EMP will be conducted.	SEIA	Entire project	Provincial Communications Department	Before construction starts on any section
B. Construction					
1. Loss of topsoil	Stockpiles of topsoil will be maintained in accordance with SEPP and Agriculture Department specifications	Soil Erosion Protection Law, No. 49-'91 and Reg. No. 120 of the People's Republic of China (PRC)	Throughout project corridor and all borrow and spoil areas	Contractor	During construction
2. Compaction of soil	(i) Construction vehicles, machinery, and equipment will move or be stationed in designated areas. (ii) Ensure that method of stockpiling materials, use of plant, and siting of temporary buildings or structures do not adversely affect the stability of cut or fill.	Contract specifications Contract specifications	Throughout project corridor and all temporarily used areas; at all cut and fill sites	Contractor	During construction
3. Material borrow areas	(i) The contractor will facilitate inspection of all borrow areas by Environmental Protection and Water Resources	PRC Law 49-'91 and Reg. No. 20	All construction sites and borrow areas	Contractor	During construction

Environmental Issue	Mitigation Measures	References in Law/Contract Documents	Location	Responsible Organization	Time Frame
	Bureaus. (ii) No soil or aggregates will be borrowed from or spoil dumped on graveyards.	Contract specifications			
4. Borrow area rehabilitation	Borrow pits will be filled with spoil, top soiled, and vegetated or left as fishponds in accordance with site operation plan and SEIA.	Contract specifications	PRC Law 49-'91 and Reg. No. 120	Contractor	During construction
5. Soil erosion and siltation	(i) On road embankment slopes, slopes of all cuts shrubs and grass will be planted in accordance with the SEPP. (ii) To control soil erosion and siltation from earthworks, slope drains, sedimentation ponds, grasses, etc. to be installed.	Design requirement PRC Law 49-'91 and Reg. No. 120	Within construction corridor and all construction sites, all borrow and spoil areas, service roads and equipment storage areas, etc.	Contractor	During construction
6. Soil contamination by fuel and lubricants	(i) Vehicles, machinery and equipment maintenance and refueling to be carried out so that spillages do not seep into soil. (ii) Fuel storage and refueling areas will be at least 300 meters (m) from drainage structures and important water bodies. (iii) Fuel storage and refueling areas, if in agricultural land or vegetated areas, will have topsoil stripped, stockpiled, and returned after completion of refueling activities. (iv) Oil traps will be provided for toll station areas and within drainage systems for bridges.	Contract terms and conditions	Throughout project corridor, access roads, temporary sites, and borrow/spoil disposal areas	Contractor	During construction
7. Soil contamination by construction material waste	(i) All spoil will be disposed of. (ii) All waste materials will be disposed of as defined and the site fully cleaned before handing over to the operating unit.		Throughout project corridor, access roads, temporary sites and borrow/spoil disposal areas	Contractor	During construction
8. Loss of water sources	Any source of water for the community, e.g., wells and ponds that are lost through construction works will be replaced immediately	RP requirement	Throughout project corridor, access roads, temporary sites, and borrow/spoil disposal areas	Contractor	Whenever it occurrence during construction
9. Flooding	Prevent temporary or permanent flooding of the site and any adjacent area	Contract terms and conditions	Throughout project corridor, access roads, temporary sites, and borrow/spoil disposal areas	Contractor	During construction and defects liability period

Environmental Issue	Mitigation Measures	References in Law/Contract Documents	Location	Responsible Organization	Time Frame
10. Siltation into water bodies	Cofferdams will be constructed before bridge footings or pile driving in any major watercourse.		Bridge construction sites	Contractor	During construction
11. Revegetation to prevent erosion and siltation	Revegetation will be done immediately after construction ceases at a site, and no tree or vegetation other than those approved for removal by Forestry Department will be cut.	PRC Law 49-91 and Reg. No. 20	Throughout project corridor, access roads, temporary sites, and borrow/spoil disposal areas	Contractor and local unit retained to do replanting	During construction
12. Alteration of drainage	(i) In sections along watercourses, all waste construction materials will be properly disposed of. (ii) Temporary irrigation and drainage systems will be built before permanent systems are blocked or removed.		Throughout project corridor, access roads, temporary sites, and borrow/spoil disposal areas	Contractor	During construction
13. Water contamination from construction wastes	(i) Measures will be taken to prevent contamination by wastewater during construction. (ii) Construction work close to water bodies will be avoided during rainy periods. (iii) Discharge standards in PRC regulation <i>guojia biao zhun</i> (GB) (national standard): 8978-1996 will be strictly complied with.	PRC GB 8978-1996	Throughout project corridor, access roads, temporary sites, and borrow/spoil disposal areas	Contractor	During construction
14. Water contamination from petrochemicals	Waste petrochemicals must be collected, stored, and taken to approved disposal sites in compliance with PRC regulations.		Throughout project corridor and at associated work sites		
15. Sanitation and waste disposal in construction camps	(i) Work camps must be at least 200 m from the nearest residential area. (ii) Sanitation facilities must be properly designed, built, and operated. (iii) Arrangement for proper disposal of sewage must be made.		All construction workers' camps	Contractor	During establishment, operation, and removal of work camps
16. Generation of dust	(i) Vehicles delivering granular and/or fine materials will be covered. (ii) Materials storage sites should be 300 m from residential areas and covered with canvas or sprayed with water. (iii) Water will be sprayed on construction sites and unpaved roads at least twice a day during the dry season. (iv) Dust from work sites, rock crushing machinery, and equipment will not		Throughout project corridor, access roads, temporary sites, and borrow/spoil disposal areas	Contractor	During construction

Environmental Issue	Mitigation Measures	References in Law/Contract Documents	Location	Responsible Organization	Time Frame
	exceed 2.0 milligrams per cubic meter (m ³) within 150 m of the work sites.				
17. Emissions from construction vehicles, equipment and machinery	(i) Discharge standards under Environmental Protection Law, 1989, will be strictly adhered to. (ii) An inspection certificate will be initiated.	PRC-GB 14761.7-93	Throughout project corridor, access roads, temporary sites, and borrow/spoil disposal areas	Contractor	During construction
18. Noise from vehicles, plant, and equipment	(i) Equipment and machinery will strictly conform to PRC and local noise standard. (ii) At construction sites within 150 m of residential areas, noisy construction work will be stopped from 22:00 to 06:00 hours.	PRC GB 12523-90	Throughout project corridor, access roads, temporary sites, and borrow/spoil disposal areas	Contractor	During construction
19. Noise from blasting	Blasting and the use of explosives will be strictly controlled.		All blasting sites	Contractor	During preparation, operation, and closure of sites
20. Loss or damage to flora and fauna	(i) All works will be carried out to minimize damage or disruption to flora and fauna. (ii) It is prohibited to borrow materials from or dump spoil outside those sites identified in the construction design and SEPP. (iii) Construction workers will be forbidden to harvest wild food or animals.	Design requirement, SEIA	Throughout project corridor, access roads, temporary sites, and borrow/spoil disposal areas	Contractor	During construction
21. Spread of HIV/AIDS and sexually transmitted infections	A prevention/education program will be implemented. Information centers will be established at each construction site.		Project corridor and neighboring villages	Nongovernment organization	During construction
22. Loss of access	At all times, the contractor will provide safe and convenient passage for vehicles, pedestrians, and livestock to and from side roads and property access connecting to the project road.	As specified in RP documents	Throughout project corridor, access roads, and temporary sites	Contractor	During construction
23. Use of hazardous and toxic materials	Herbicides or other toxic chemicals will be used strictly in accordance with the manufacturer's instructions and according to PRC regulations.	PRC Reg. No. 3130-88	Throughout project corridor, access roads, and temporary sites	Contractor	During construction
24. EMP update	EMP will update when the construction is completed. In addition, if the design is revised significantly, adequate revision of EMP will be conducted.	SEIA	Entire project	Project implementation unit under Heilongjiang Provincial Communications Department (HCD)	Before operation starts on any section

Environmental Issue	Mitigation Measures	References in Law/Contract Documents	Location	Responsible Organization	Time Frame
C. Operation					
1. Management of storm water	Storm water should not be drained directly into class II rivers.		Project corridor	Country drainage departments	Operation
2. Air pollution from vehicles	(i) New afforestation projects will be adjacent to road. (ii) Vehicles on the road will be tested for vehicle emissions on an ad hoc basis. (iii) Vehicle emission inspection program will be encouraged.	EIA GB 14761.1, 14761.7-93	All project corridor and affected villages	Municipal level Environmental Protection Bureau and Public Security Bureau	Operation
3. Noise pollution	(i) Noise pollution will be monitored. (ii) "No Horn Permitted" signs will be set up near schools. (iii) Random weighing of vehicles will be done.	EIA and environmental management plan	Refer to noise pollution monitoring program	Highway operation entity to be established by HPCD and County Environmental Protection Bureau	Operation
4. Handling and transport of hazardous and toxic materials	(i) Individual consultants will enforce compliance with PRC regulations. (ii) A spill management plan will be prepared. (ii) In case of accident involving hazardous substances, the relevant emergency team will be called.	PRC Reg. JT3130-88 Local Transport Reg. on Hazardous Substances SEIA	All project corridor and surroundings	Local public security bureau	Throughout operations
5. Waste management	(i) Sewage and wastewater at toll stations will be treated. (ii) Solid waste will be removed on a regular basis. (ii) Oil traps will be maintained and monitored regularly.	EIA	All toll areas	Toll area operators	Throughout operations
6. EMP update	EMP will be update when required.	SEIA	Entire project	Highway operation entity to be established by HPCD	Throughout operations
D. Monitoring					
Environmental Monitoring	References in Law and Contract Documents	Location	Responsible Party and Budget	Time Frame	Frequency
1. Air quality, water quality, noise	Monitoring will be conducted based on relevant specifications or standards issued by State Environmental Protection Administration (SEPA), using the schedule set out in the SEIA.	Monitoring station selected and verified in field	Heilongjiang County Environmental Monitoring Stations (CEMSs)	Throughout construction (3 years) Throughout operation (20 years)	Quarterly (total suspended particles only for air) Half yearly (noise and water) Annual (nitrogen dioxide only for air)

Source: *Environmental Impact Assessment* (2005).

ENVIRONMENTAL MONITORING PLAN

Environmental Issue	Monitoring Frequency and Location	Implementing Agency	Total Cost (CNY)
A. Noise Protection			
	Construction: 24 hour continuous noise monitoring 3 times/year (spring, summer, autumn) at residential areas and schools within 100 meters of road; random monitoring, if necessary, for 3 years	Environmental Protection Management Engineers or Local Environmental Monitoring Stations	CNY190,000
	Operation: 24-hour continuous noise monitoring 2 times per year at 13 sites, for 20 years	Environmental Protection Management Engineers or Local Environmental Monitoring Stations	CNY1,300,000
B. Air Pollution			
	Construction: 24-hour continuous total suspended particles level monitoring 3 times/year (spring, summer, autumn) at residential areas, schools, and sensitive areas near concrete batching plants, for 3 years	Local Environmental Monitoring Stations	CNY450,000
	Operation: 24-hour continuous nitrogen dioxide monitoring (or 4 times/day) at 9 sites/12 boiler room chimneys at toll stations, for 20 years	Local Environmental Monitoring Stations	CNY1,300,000
C. Water Quality Protection			
	Construction: 1 day person hours, chemical oxygen demand, suspended solids, and petroleum oil monitoring 3 times/year (spring, summer, autumn) under 6 bridges, for 3 years	Local Environmental Monitoring Stations	CNY185,500
	Operation: 2 day person hours, chemical oxygen demand, biological oxygen demand (5-day) and petroleum oil monitoring 2 times/quarter (spring, summer, autumn) at toll station discharge points, for 20 years	Local Environmental Monitoring Stations	CNY5,000,000
D. Ecological Protection			
	Construction: Monitoring revegetation growth and soil erosion on side slopes and borrow pit/spoil disposal sites, for 3 years	Local Environmental Monitoring Stations and Water Bureaus	CNY200,000
	Operation: Monitoring revegetation growth and soil erosion on side slopes and borrow pit/spoil disposal sites, for 20 years	Local Environmental Monitoring Stations and Water Bureaus	CNY4,000,000
			CNY12,625,500

Source: *Environmental Impact Assessment* (2005)

SOCIAL DEVELOPMENT ACTION PLAN: 2006–2010

Proposed Actions	Target Group	Institutions	Timing	Funds	Sources	Indicators of M&E
Resettlement <ul style="list-style-type: none"> Resettled within the original community Farmland readjusted among the villagers, or non-irrigated land changed to irrigated 	Villages to be involved in land acquisition for the Project	EA, local governments, village committee, and local land bureau s	2006	Included in the resettlement plan	Project	Compensation standards, amount of compensation, and the timing of compensation.
Income recovery of affected villagers <ul style="list-style-type: none"> Directly pay compensation to affected people Develop farm and nonfarm sectors Help affected people obtain more opportunities to earn income 	Households will be involved in the resettlement: 5,532 households along the main road alignment, 211 households along the link road.		2006	Included in the resettlement plan	Project	
Poverty Reduction <ul style="list-style-type: none"> Under the program of national and provincial poverty reduction, help poor villages one by one 	Poor within the project areas	Local governments, poverty reduction office, agriculture bureau, irrigation bureau, women's federation.	2006–2010	CNY104 million	Project funds, poverty reduction funds	Amount of projects to be implemented. Funds to be invested, and increased income of poor people
Control of infectious disease, including HIV/AIDS <ul style="list-style-type: none"> Training and medical examinations of workers Enhance the awareness of the risks of the diseases 	All the construction encampment	EA, contracted company, county diseases control center, county health bureau	2006–2009		Local government	Incidence of a disease among construction workers
Road Safety <ul style="list-style-type: none"> Set up speed slow-down facilities and warning marks in the Project 	Villagers, students, with women monitoring	EA, contracted company, communication management agency	2006–2009		Project funds	Traffic accident ratio
Sub-link road updating <ul style="list-style-type: none"> Villages along the main road and link road. Update the road to link with the road network 	Villages near by the proposed road	Government of county (city), township, and village's committee	2006–2009		Local government and villages	
Promote Local Economic Development <ul style="list-style-type: none"> Use local construction materials Use local workers to road construction Employ local vulnerable people for maintenance 	Townships among the proposed road	EA, Contracted construction company, County and township government	2006–2009			Percentage of local materials be used Number of local workers involved in construction Number of vulnerable people be employed by the management agency
Improve transportation service	The residents of project	County communication	2006–		Project	Bus station number

Proposed Actions	Target Group	Institutions	Timing	Funds	Sources	Indicators of M&E
<ul style="list-style-type: none"> Construct rural bus stations Promote construction of roadside stations Lower toll towards local people 	area	bureau of project area, Road management company	2009		funds, local government	Roadside station number constructed
Tourism development <ul style="list-style-type: none"> Tourism advocacy Tourism infrastructure improvement 	Government and village committee where the tourism sites are located, villagers	Tourism bureau, local government and village committee .Women's Federation	2006–2009		Attract investors	Number of tourists, revenue of tourism
Attract investors <ul style="list-style-type: none"> Based on local natural resources, attract outside investors through preference tax policy 	Small businesses and new enterprises	Local government	After 2006			Number of outside investor, number of investment projects
Small town urbanization <ul style="list-style-type: none"> By the improving of public service facilities, promote small town urbanization. By attracting outside investors 	Townships along proposed road	Local government	After 2006		Urbanization funds	Population of small towns, proportion of different industry sectors
Promote private small business development <ul style="list-style-type: none"> To encourage small business development through tax and loan release preference policy 	Population of the project area	Local government and financial institutions	After 2006		Local financial institutions	Number and size of private enterprises
Training Poor women <ul style="list-style-type: none"> Female health care knowledge Skill training for female labor skill, housekeeping, computer skill, etc) 	Women of poor area	Social and working safeguard bureau. Civil affair bureau, Women's Federation	After 2006	CNY800,000	Project funds	Number of trained women. Number of female workers employed outside of their village
Help Vulnerable people <ul style="list-style-type: none"> Relieve people who have no working capacity through social safeguard measures Raise new crops and livestock 	Vulnerable population of project area	Poverty reduction bureau, county civil affairs bureau	2006–2009			Number to be assisted. Income level of vulnerable people rises
Minority Development <ul style="list-style-type: none"> Skills training for ethnic minority people who want work to outside their village based on their skill needs Advocate minority culture and traditions through 	11 ethnic minority villages along proposed road	Minority affairs and religion bureau of county	After 2006	Local government budgets	Labor, ethnic minority, and tourism bureaus	Number of persons trained by type and gender Number of cultural activities and amount invested

EA = executing agency, M&E = monitoring and evaluation.

Source: Asian Development Bank and Heilongjiang Provincial Communications Department estimates.

Pro Forma of the Executing Agency's Project Progress Report

A. Introduction and Basic Data

Provide the following:

ADB loan number, project title, borrower, executing agency(ies), implementing agency(ies);
total estimated project cost and financing plan;
status of project financing including availability of counterpart funds and cofinancing;
dates of approval, signing, and effectiveness of ADB loan;
original and revised (if applicable) ADB loan closing date and elapsed loan period based on original and revised (if applicable) loan closing dates; and
date of last ADB review mission.

B. Utilization of Funds (ADB Loan, Cofinancing, and Counterpart Funds)

Provide the following:

cumulative contract awards financed by the ADB loan, cofinancing, and counterpart funds (commitment of funds to date), and comparison with time-bound projections (targets);
cumulative disbursements from the ADB loan, cofinancing, and counterpart funds (expenditure to date), and comparison with time-bound projections (targets); and
reestimated costs to completion, need for reallocation within ADB loan categories, and whether an overall project cost overrun is likely.

C. Project Purpose

Provide the following:

status of project scope/implementation arrangements compared with those in the report and recommendation of the President (RRP), and whether major changes have occurred or will need to be made;
an assessment of the likelihood that the immediate development objectives (project purpose) will be met in part or in full, and whether remedial measures are required based on the current project scope and implementation arrangements;
an assessment of changes to the key assumptions and risks that affect attainment of the development objectives; and
other project developments, including monitoring and reporting on environmental and social requirements that might adversely affect the project's viability or accomplishment of immediate objectives.

D. Implementation Progress

Provide the following:

assessment of project implementation arrangements such as establishment, staffing, and funding of the PMO or PIU;

information relating to other aspects of the EA's internal operations that may impact on the implementation arrangements or project progress;

progress or achievements in implementation since the last progress report;

assessment of the progress of each project component, such as,

- recruitment of consultants and their performance;
- procurement of goods and works (from preparation of detailed designs and bidding documents to contract awards); and
- the performance of suppliers, manufacturers, and contractors for goods and works contracts;

assessment of progress in implementing the overall project to date in comparison with the original implementation schedule—quantifiable and monitorable target, (include simple charts such as bar or milestone to illustrate progress, a chart showing actual versus planned expenditure, S-curve graph showing the relationship between physical and financial performance, and actual progress in comparison with the original schedules and budgets, the reference framework or guidelines in calculating the project progress including examples are shown in Appendix 2); and

an assessment of the validity of key assumptions and risks in achieving the quantifiable implementation targets.

E. Compliance with Covenants

Provide the following:

the borrower's compliance with policy loan covenants such as sector reform initiatives and EA reforms, and the reasons for any noncompliance or delay in compliance;

the borrower's and EA's compliance with financial loan covenants including the EA's financial management, and the provision of audited project accounts or audited agency financial statements; and

the borrower's and EA's compliance with project-specific loan covenants associated with implementation, environment, and social dimensions.

F. Major Project Issues and Problems

Summarize the major problems and issues affecting or likely to affect implementation progress, compliance with covenants, and achievement of immediate development objectives. Recommend actions to overcome these problems and issues (e.g., changes in scope, changes in implementation arrangements, and reallocation of loan proceeds).

Suggested Topics for Project Completion Reports to be Prepared by Executing Agency

I. PROJECT DESCRIPTION

- A. Objectives
- B. Components (or subprojects for sector and multiprojects)
- C. Implementation methods
- D. Description and justification of changes in components (or subproject appraisal criteria) or implementation methods

II. PROJECT IMPLEMENTATION

- A. Compare original and actual implementation schedules. Indicate delays, length and causes of delays, and remedial action taken.
- B. Compare cost estimates made during appraisal and actual costs (foreign and local). Local currency costs incurred, appropriate exchange rates for their conversion into US dollars, and the foreign exchange costs financed by cofinanciers must be compiled correctly with reference to audited project accounts. Indicate factors that contributed to any significant overruns or underruns.
- C. State problems or difficulties in recruiting consultants, with reference to ADB procedures. Assess the consultant's work and the working relationship between the executing agency (EA) and the consultant. Use of a design and monitoring framework is strongly recommended.
- D. State problems or difficulties encountered in procuring goods and services (including civil works) with reference to ADB procedures. Assess the supplier's or contractor's performance under the contract.
- E. Give the extent of compliance of the borrower and EA with loan covenants, with reasons for noncompliance or delays in compliance and the remedial actions taken.
- F. State reasons for any delays in loan utilization. Evaluate the appropriateness of the disbursement methods used. Justify the reallocation of loan proceeds.
- G. State problems or difficulties with subproject appraisal. Evaluate the EA's performance and capacity to appraise subprojects.

III. INITIAL OPERATIONS

- A. Describe initial operations of the project and transitional problems encountered from project completion to initial operations.
- B. Describe measures taken to ensure continued smooth operation of the project relative to management, staffing, funding, and maintenance of project facilities.
- C. Analyze the prospects of the project benefits being realized.

IV. EVALUATION OF THE ASIAN DEVELOPMENT BANK'S PERFORMANCE

A. Assess ADB's performance in supervising project implementation. Include comments on the adequacy of the consultants' terms of reference and appropriateness of specifications in tender documents. Evaluate the effectiveness and timeliness of assistance extended by ADB to solve implementation problems.

B. Comment on problems encountered with ADB's procedures. Note the measures taken to resolve these problems and suggest changes in procedures and requirements.

SAMPLE AUDIT LETTER

ASIAN DEVELOPMENT BANK

Regional Department
Sector Division / Regional or Resident Mission

[Date]¹

[The Borrower]
Dear Sir or Madam:

Subject: **[Loan No. and Project Title]**
FINANCIAL REPORTING AND AUDITING REQUIREMENTS

This letter is to ensure your timely compliance with the loan covenants and the quality of financial information as required by ADB. ADB's *Handbook for Borrowers on the Financial Governance and Management of Investment Projects Financed by the ADB* (the Booklet) is enclosed to guide you.

ADB, by its Charter, is required to ensure that the proceeds of any loan made, guaranteed, or participated in by ADB are used for the purposes for which the loan was approved. ADB requires accurate and timely financial information from its borrowers to be assured that expenditure was for the purposes stated in the loan agreement.

For this particular loan, the requirements are stipulated in sections _____² and _____³ of the Loan Agreement of _____ between ADB and [the Borrower] and sections _____⁴ and _____⁵ of the Project Agreement⁶ of _____ between ADB and [name of the EA].⁷ Copies of the Loan/Project Agreements are enclosed for onward transmission by your office to your EA and the auditor(s), together with a copy of this letter.

The following are the main requirements:

ADB requires the EA to maintain separate project accounts and records exclusively for the Project to ensure that the loan funds were used only for the objectives set out in the Loan or Project Agreements. The project accounts comprise the following:⁸

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The first set of project accounts to be submitted to ADB covers the fiscal year ending _____. As stipulated in the Loan or Project Agreements, they are to be submitted up to _____ months after the end of the fiscal year. For this loan, the deadline is by _____. A sample report format with explanatory notes, is attached as Annex A.

The accounts and records for the project are to be consistently maintained by using sound accounting principles. Please stipulate that your external auditor is to express an opinion on whether the financial report has been prepared using international or local generally accepted accounting standards and whether they have been applied consistently.

ADB prefers project accounts to use international accounting standards prescribed by the International Accounting Standards Committee. Please advise your external auditor to comment on the impact of any deviations, by [name of the Executing Agency] from international accounting standards.

Please ensure that your external auditor specifies in the Auditor's Report the appropriate auditing standards they used, and direct them to expand the scope of the paragraph in the Auditor's Report by disclosing the key audit procedures followed. Your external auditor is also to state whether the same audit procedures were followed for all supplementary financial statements submitted.

ADB wishes that auditors conform to the international auditing standards issued by the International Federation of Accountants. In cases where other auditing standards are used, request that your external auditor to indicate in the Auditor's Report the extent of any differences and their impact on the audit.

The external auditor's opinion is also required on whether

- the proceeds of the ADB's loan have been utilized only for the project as stated in the Loan Agreement;
- the financial information contains data specifically agreed upon between [name of the Borrower or EA] and ADB to be included in the financial statements;
- the financial information complies with relevant regulations and statutory requirements; and
- compliance has been met with all the financial covenants contained in the Loan or Project Agreements.

The Auditor's Report is to clearly state the reasons for any opinions that are qualified, adverse, or disclaimers.

Actions on deficiencies disclosed by the external auditor in its report are to be resolved by [name of Borrower or Executing Agency] within a reasonable time. The external auditor is to comment in the subsequent Auditor's Report on the adequacy of the corrective measures taken by [name of Borrower or EA].

Compliance with these ADB requirements will be monitored by review missions and during normal project supervision, and followed up regularly with all concerned, including the external auditor.

Yours sincerely,

Director/Country Director
(Sector Division/Regional or Resident Mission)

cc: (EA)
(External auditor of the Borrower or EA)

MAJOR LOAN COVENANTS

Sector

1. Construction Quality. HPG shall cause HPCD to ensure that (i) the Project Road is constructed in accordance with the Borrower's Ministry of Communication's technical standards of highway engineering; (ii) the Rural roads are upgraded and constructed in accordance with the national standards, and maintained in accordance with standards satisfactory to ADB; and (iii) the Project highway construction supervision, quality control, and contract management are conducted in accordance with national standards and internationally accepted practices.

(PA, Schedule, para. 5)

**Not Yet -
Due**

2. Road Safety. At least six months prior to the opening of the Project highway, HPG shall (i) develop and implement a plan, acceptable to ADB, for ensuring safe operation of road infrastructure facilities; (ii) ensure that traffic police patrols the Project Road and enforces the national laws and regulations, and (iii) create a 2.5 km pilot Rural road safety zone to enhance safety along the Project Road. HPG shall ensure monitoring of the accident rate and traffic volume after commencement of the operation of the Project highway to verify efficacy of the piloted safety zone.

(PA, Schedule, para. 7)

**Not Yet -
Due**

3. Road Maintenance. HPG shall ensure that HPCD shall (i) develop a road maintenance manual during Project implementation; (ii) establish a system during the Project for an efficient prioritization of road maintenance works; and (iii) provide a training program under the Project to strengthen the capacity of local government maintenance units.

(PA, Schedule, para. 8)

**Not Yet -
Due**

4. Operation and Maintenance Concession. Upon the completion of the Project highway, HPG shall cause HPCD to use its best efforts to enter into (a) an operation and maintenance concession with a private sector entity for the class I section of the Project highway (totaling 8 km), and (b) maintenance concession for the class II sections of the Project highway. HPG shall cause HPCD to submit the bidding documents and the concession framework to ADB by interim review in 2008.

(PA, Schedule, para. 9)

**Not Yet -
Due**

5. Tolling. At least six months prior to the opening of the Project highway, HPG shall propose the appropriate toll rates for the Project highway in accordance with the Borrower's highway laws. For the first three years of full operation, HPG shall review the toll structure and levels and report to ADB significant difficulties in meeting the principles established under the Borrower's highway laws.

(PA, Schedule, para. 10)

Not Due Yet -

6. Monitoring and Evaluation. HPG shall ensure that HPCD, within six months of Project implementation, adopts a project performance management system (PPMS), acceptable to ADB, based upon the PPMS indicators agreed between HPCD and ADB. HPG shall monitor Project impacts, as specified in the PPMS, to ensure that the Project facilities are managed effectively and the benefits to the poor are maximized. By December 2007, HPG shall (i) hire a qualified domestic institute to carry out the monitoring activities; (ii) ensure that the local governments, including local statistics offices, collect the data to measure the indicators in the PPMS prior to implementation, at completion, and biennially for 6 years thereafter, with the frequency as specified in the PPMS; and (iii) submit to ADB the reports summarizing the key findings of monitoring.

(PA, Schedule, para. 23)

Not Due Yet -

Environmental

1. Vehicle Emissions. At least six months prior to the opening of the Project highway, HPG shall provide to ADB the HEPB emission standards and the penalties for infringement of such standards. HPG shall ensure that through the relevant agencies, the HEPB vehicle emission standards, as well as the national vehicle emission standards, are enforced.

(PA, Schedule, para. 11)

Not Due Yet -

2. Environment. HPG shall ensure that (i) the Project is constructed and operated in accordance with national and local laws, ADB's Environment Policy, and the EIA; (ii) any adverse environmental impacts are minimized by the mitigating measures and monitoring program in the EIA; (iii) the implementation of the EMP and any violation of environmental standards are regularly reported to ADB in accordance with the specifications set forth in the EIA; and (iv) EMP is incorporated in bidding documents and bills of quantities of the civil work contracts.

(PA, Schedule, para. 15)

Not Due Yet -

Social

1. Capacity Development. Within six months from the Effective Date, HPG shall cause HPCD to prepare a human resource development plan which will include a training plan, a program of workshops and a list of training equipment, for ADB's approval.

(PA, Schedule, para. 14)

**Not Yet -
Due**

2. Land Acquisition and Resettlement. HPG, through HPCD and the relevant county-level governments, shall ensure that: (a) the RP is updated based on detailed measurement survey, disclosed to affected persons and submitted to ADB for approval prior to commencement of civil works; (b) all land and rights-of-way required by the Project are made available in a timely manner in accordance with domestic regulations, including land use approvals and agreements with affected persons; (c) the RP and the Social Development Action Plan referenced in RP, including specific actions and measures for ethnic minorities, are implemented promptly and efficiently in accordance with their respective terms, all applicable laws and regulations of the Borrower, and ADB's Policy on Involuntary Resettlement and Indigenous Peoples Policy; (d) all affected persons are given adequate opportunity to participate in resettlement planning and implementation; (e) sufficient and timely provision of counterpart funds will be paid for land acquisition and resettlement activities and disbursed to affected persons prior to dispossession of housing, land and assets; (f) any obligations in excess of the RP budget estimates are met; and (g) the affected persons shall be at least as well off as they would have been in the absence of the Project.

(PA, Schedule, para. 16)

**Not Yet -
Due**

3. Land Acquisition and Resettlement. HPG, through HPCD and the relevant county-level governments, shall ensure that: (a) adequate staff and resources are committed to supervising and internal monitoring the implementation of the RP; (b) ADB is provided semi-annual reports on resettlement implementation, and a resettlement completion report; (c) an independent agency, acceptable to ADB, is engaged to monitor progress semi annually and evaluate results through annual survey updates for two years after completion of resettlement, including data disaggregated by gender where applicable, and these monitoring reports are submitted to ADB and the Borrower as stipulated in the RP; (d) ADB is promptly advised of any substantial changes in the resettlement impacts and, if necessary, a revised RP is prepared, disclosed to affected persons and submitted to ADB for its approval; (e) a summary of the government audit of resettlement disbursements and expenditures be provided to ADB; (f) civil works contractors' specifications include requirements to comply with the RPs and entitlements for permanent and temporary impacts to affected persons; (g) the contractors are supervised to ensure compliance with requirements of the RPs, applicable law and ADB's Policy on Involuntary Resettlement; and (h) affected persons are given preferential treatment for Project-related employment opportunities.

(PA, Schedule, para. 17)

**Not Yet -
Due**

4. Poverty Reduction. HPG, through HPCD, shall cause the contractors involved in project implementation to maximize employment of local poor persons, including ethnic minorities, who meet the job and efficiency requirements for construction of the Project. Such workers will be provided with adequate on-the-job training. HPCD and the relevant county-level governments shall implement the Project in accordance with the Social Development Action Plan referenced in RP. HPG shall monitor the Project's impact on poverty and submit annual monitoring reports to ADB during project implementation in accordance with the guidelines set forth in the project performance monitoring system (PPMS) as defined in paragraph 23 of this Schedule.
(PA, Schedule, para. 18)

**Not Yet -
Due**

5. Women and Child Labor. HPG shall cause HPCD to ensure that Project contractors: (a) are encouraged to use local labor and local materials in Project works; (b) provide equal pay to men and women for work of equal type; (c) provide timely payment of wages and safe working conditions for both male and female workers, (d) maximize employment for the affected persons with equal access to women, including disadvantaged women, (e) comply with applicable labor laws, and (f) abstain from child labor in construction, operation and maintenance activities on Project facilities.
(PA, Schedule, para. 19)

**Not Yet -
Due**

6. Gender and Development. HPG shall follow ADB's Policy on Gender and Development during Project implementation and shall take necessary steps to encourage women living in the Project area to participate in the Project implementation, including causing the contractors to maximize employment of women in connection with the Project. HPG, in coordination with the appropriate agencies, shall ensure the effective implementation of measures aimed at increasing Project benefits and impacts on women in and around the Project Road, which are included in the Social Development Action Plan referenced in RP. HPG shall monitor the Project's effects on women during Project implementation.
(PA, Schedule, para. 20)

**Not Yet -
Due**

7. Health Risks. HPG, in coordination with the appropriate agencies identified by the Borrower, shall cause the Project contractors to disseminate information on the risks of socially and sexually transmitted diseases, including HIV/AIDS, to their employees during Project implementation. HPG shall cause the appropriate agencies to disseminate similar information to transport operators and to local communities living in the Project area during Project implementation and operation of the Project facilities. Specific provisions to this effect shall be included in bidding documents and civil works contracts, and compliance shall be strictly monitored by HPG through HPCD.
(PA, Schedule, para. 21)

**Not Yet -
Due**

Financial

1. Counterpart Funding. HPG shall take all necessary measures to ensure that all financing including budgetary allocations and local bank's debt financing are provided on a timely basis to enable the full and timely completion of the Project. In the event of any shortfall or disruption in the financing of the Project due to, inter alia, the lack, delay or inadequacy of funding of the Project or Project cost overruns, HPG shall promptly inform the Borrower and ADB and request the Borrower to provide additional funds as may be necessary for successful implementation of the Project.
(LA, Sch. 5, para. 4 and PA, Schedule, para. 4)

**Not Yet -
Due**

2. Financial Ratios. HPG shall ensure that the debt service coverage ratio of the Project is not less than 1.2 from the sixth year of full operation of the Project highway.
(PA, Schedule, para. 12)

**Not Yet -
Due**

3. Financial Reporting. During the construction period and for the first five fiscal years of commercial operation, HPG shall cause HPCD to submit to ADB certified copies of its annual accounts and financial statements, audited by external and qualified auditors appointed by HPG, within six months after the end of each relevant fiscal year. HPG shall also establish and maintain during implementation and operation of the Project an internal audit unit, composed of full-time accountants, to undertake timely audits of project accounts in accordance with generally accepted accounting principles.
(PA, Schedule, para. 13)

**Not Yet -
Due**

Others

1. Established, Staffed, and Operating PMU/PIU

HPG through HPCD shall be the Project Executing Agency responsible for overall execution and coordination of the Project. HPCD shall also implement the Rural roads component. HPG shall ensure that HPCD's institutional capacity is adequately supplemented with, among others, consultancy and training inputs under the Project.

(LA, Sch. 5, para. 1 and PA, Schedule, para. 1)

The Project Implementation Unit within HPCD shall be responsible for managing, coordinating, and supervising implementation of all Project activities. It shall coordinate and monitor the Project highway's construction activities and operate the Project highway. Its general manager, the project director, will be responsible for overall Project management in relation to the Project highway, the approval of contracts, and payments. The PIU shall also facilitate land acquisition, resettlement, and environmental protection measures and shall ensure that local concerns are addressed adequately. The PIU will be headed by a project manager, who will oversee day-to-day physical implementation activities and prepare progress reports. In addition to its central office, the PIU will have nine toll stations and eight maintenance centers.

LA, Sch. 5, para. 2 and (PA, Schedule, para. 2)

HPG shall take all necessary measures to ensure that (i) HPCD can successfully construct the Project Road, and (ii) the Rural roads construction and improvements are completed by the completion of the Project highway.

(LA, Sch. 5, para. 3 and PA, Schedule, para. 3)

Ongoing S

2. Fielding of Consultants

All consultants' services required for the Project and to be financed out of the proceeds of the Loan shall be procured in accordance with the requirements set forth or referred to in the Guidelines on the Use of Consultants by Asian Development Bank and its Borrowers (April 2006), as amended from time to time (hereinafter called the Consultant Guidelines), the Procurement Plan, and with the provisions of this Schedule.

(LA, Sch. 4, para. 2)

Ongoing S

3. Change in Ownership and Operation. In the event that (i) any change in ownership of the Project Road, (ii) any sale, transfer, or assignment of interest or control in the Project Road, or (iii) any lease or other contract or other modification of HPCD's functions and authority over operation and maintenance of the Project Road, is anticipated, HPG shall obtain ADB's consent at least six months prior to the implementation of such a plan. HPG shall ensure that any such changes shall be carried out in a legal and transparent manner.

(LA, Sch. 5, para. 5 and PA, Schedule, para. 6)

**Not Yet -
Due**

4. Project Review. The Borrower and HPG in conjunction with ADB shall undertake a midterm review of the Project in 2008. Such review shall cover all policy, institutional, administrative, organizational, technical, environmental, social, poverty reduction, resettlement, economic, financial, and other relevant aspects that may have an impact on the performance of the Project and its continuing viability. The review shall also examine progress in resettlement, environment, poverty impact, and compliance with assurances in this Loan Agreement and in the Project Agreement.

(LA, Sch. 5, para. 6 and PA, Schedule, para. 24)

**Not Yet -
Due**

5. Anticorruption measures. HPG shall: (i) undertake necessary measures to create and sustain a corruption-free environment, (ii) ensure that Borrower's anticorruption laws and regulations and ADB's Anticorruption Policy, are strictly enforced and are being complied with during Project implementation, and that relevant provisions of ADB's Anticorruption Policy are included in all bidding documents for the Project, (iii) facilitate ADB in the exercise of its right to investigate, directly or through its agents, any alleged corrupt, fraudulent, collusive or coercive practices relating to the Project, (iv) conduct periodic inspections on the Project contractors' activities related to fund withdrawals and settlements, and (v) ensure that all contracts financed by ADB in connection with the Project include provisions specifying the right of ADB to audit and examine the records and accounts of HPG, HPCD and PIU, and all contractors, suppliers, consultants and other service providers as they relate to the Project. In relation to the Project, HPG through HPCD shall (i) establish a supervisory body to prevent undue interference in business practices with adequate resources made available for its effective operation; (ii) involve a leading group of officials from HPCD's Supervision Division in project bidding, construction, and other operational activities; (iii) hold regular briefings between HPCD and the Prosecutor's Office to share information on or warnings about any corrupt practices detected; (iv) periodically inspect contractors' activities in relation to fund withdrawals and settlements ; and (v) introduce a dual signing system whereby the civil works contract winner also signs an anticorruption contract with the employer.

(PA, Schedule, para. 22)

**Not Yet -
Due**

Overall Rating

Satisfactory

KEY PERSONS INVOLVED IN PROJECT IMPLEMENTATION

ADB (Transport Division, East Asia Department)

Mr. Nigel Rayner	Director
Mr. Scott G. Ferguson	Sr. Resettlement Specialist
Mr. Toshiyuki Yokota	Transport Specialist
Ms. Teresita Capati	Associate Project Analyst

HPCD

Mr. Wang Biao	Director, PMO Jixi-Baiquan Section of Jixi-Nehe Project Heilongjiang Road Development Network Project
Vice Director, PMO:	Liu Furan-----Engineering Shi Yunlong-----Engineering Li Kai----- Administration, Coordinating
General engineer:	Wang Hao----- Technology
Engineering Secretary	Mi Hailin
Supervision Secretary:	Yao Hui
Planning Secretary:	Teng Shubin
Coordinating Secretary:	Li Jiaguo
Financial Department:	Zhang Qingren
Office Director:	Kou Xiaofeng