



Technical Assistance Report

Project Number: 39149
May 2006

People's Republic of China: Preparing the Guangxi Longlin–Baise Expressway Project

CURRENCY EQUIVALENTS

(as of 16 May 2006)

Currency Unit	–	yuan (CNY)
CNY1.00	=	\$0.1250
\$1.00	=	CNY8.0030

ABBREVIATIONS

ADB	–	Asian Development Bank
EIA	–	environmental impact assessment
EMDP	–	ethnic minority development plan
FYP	–	Five-Year Plan
GDP	–	gross domestic product
GMS	–	Greater Mekong Subregion
GPCD	–	Guangxi Provincial Communications Department
NTHS	–	national trunk highway system
PRC	–	People's Republic of China
TA	–	technical assistance

TECHNICAL ASSISTANCE CLASSIFICATION

Targeting Classification	–	General intervention
Sector	–	Transport and communications
Subsector	–	Roads and highways
Theme	–	Sustainable economic growth, regional cooperation
Subthemes	–	Promoting economic efficiency and enabling markets, fostering physical infrastructure development, and facilitating trade and regional integration

NOTE

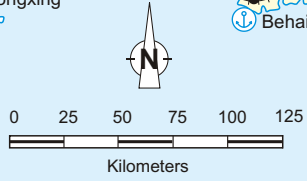
In this report, "\$" refers to US dollars.

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GUANGXI LONGLIN-BAISE EXPRESSWAY PROJECT IN THE PEOPLE'S REPUBLIC OF CHINA



- Poor County
 - Provincial Capital
 - City/Town
 - Port (ADB-financed)
 - Other Port
 - Project Expressway
 - Expressway (ongoing and planned)
 - Expressway Open to Traffic
 - Expressway (ADB-financed open to traffic)
 - Expressway (ADB-financed [under construction])
 - National Road
 - Provincial Road
 - Railway (single track)
 - River
 - Prefecture Boundary
 - Provincial Boundary
 - International Boundary
- Boundaries are not necessarily authoritative.



I. INTRODUCTION

1. During the 2005 Country Programming Mission of the Asian Development Bank (ADB), the Government of the People's Republic of China (PRC) confirmed its request for technical assistance (TA) to prepare an integrated road development project in Guangxi Zhuang Autonomous Region.¹ ADB's Fact-Finding Mission visited the project area in January 2006, carried out an initial poverty and social assessment and rapid environmental assessment, and collected other information. This paper is based on the understanding reached with the Government regarding the TA objectives, scope, costs, consultants' terms of reference, and implementation arrangements, as well as the Mission's observations in the field. The design and monitoring framework is in Appendix 1.

II. ISSUES

2. The PRC has achieved rapid economic growth and poverty reduction in recent decades. GDP has grown more than 9% per year since the 1980s, and the incidence of rural poverty fell from 33.0% in 1978 to just 2.8% in 2004. The PRC's sustained economic growth has resulted in an unprecedented expansion in traffic between and within provinces. The economy's changing structure and increasing diversification have altered the pattern of transport demand. Demand for road transport has outpaced that for other modes of transport. The movement of goods and passengers by road, which is more flexible and responsive to the needs of a market economy than other modes of transport, is increasing rapidly.² The shift in demand reflects the loosening of anticompetitive restrictions in the road transport industry. Large investments in automotive manufacturing and the country's rapid economic growth have spurred the expansion of vehicle fleets at a pace that will likely be maintained in coming years.

3. Propelling the country's robust growth and drastic poverty reduction were massive investments in roads. The Government has made major efforts to increase road capacity to meet the growing demand for improved access to markets and services. At the heart of the development of the road network is the National Trunk Highway System (NTHS), a 35,000-kilometer (km) system of interprovincial expressways and high-class highways (target completion: 2007). The NTHS will be complemented by a network of national, provincial, county, and township roads. The Government has also adopted the western region development strategy (WRDS), a key theme of the 10th Five-Year Plan (FYP) (2001–2005), to enhance economic development in the western part of the country, where most of the poor reside. The strategy, which aims to reduce the disparity between the western and coastal regions, assigns high priority to road sector development as a way to promote economic growth and poverty reduction in the western region. During the 10th FYP, the Government (i) accelerated the construction of a network of expressways and high-class highways, giving priority to five north–south and seven west–east sections of the NTHS; (ii) started the construction of highways in the western region totaling 18,000 km, including the eight western corridors; (iii) targeted opening about 1.95 million km of highways to traffic, with expressways accounting for 35,000 km; and (iv) began to implement the 85,000 km national expressway network plan, slated for completion in 2040, with an annual investment of CNY100 billion to CNY150 billion.

¹ The TA was first listed in *ADB Business Opportunities* on 3 March 2006.

² From 1990 to 2004, road traffic grew by about 9.0% per year for passenger traffic, reaching 876.5 billion passenger-kilometers, and by 6.0% per year for freight, reaching 759.7 billion ton-km. In 2004, road traffic accounted for 53.7% of the PRC's total passenger traffic and 11.4% of its total freight traffic.

4. As a result, the country's highway network grew from 1.16 million km in 1995 to 1.86 million km in 2004, for an average annual increase of 6%. Of this, 1.52 million km were classified. The total length of expressways increased from 147 km in 1988 to 34,287 km in 2004, or over 100-fold. Class-I highways increased from 196 km in 1980 to 33,522 km in 2004, or 29% per year on average. Highways of class II and above accounted for 299,524 km, or 19.7% of the total length. County, township, and village roads, which the Ministry of Communications classifies as rural roads, totaled 2.9 million km in 2004.³

5. Guangxi, in southern PRC, is one of the three least developed areas of the country. It is bordered by Yunnan province on the west, Guizhou on the northwest, Hunan on the northeast, and Guangdong on the southeast; the Gulf of Tonkin on the south; and Viet Nam on the southwest. The population of Guangxi exceeded 48.9 million in 2004, when the province's per capita GDP was CNY7,196, or 77% of the national average. Of 81 counties in Guangxi, 49 are poor by either the national or provincial standard. The poor and the ethnic minorities are concentrated in the northwest, where the project will be located.

6. Guangxi has strong links with the Greater Mekong Subregion (GMS) countries with regard to geography, resources, climate, culture, economy, trade, transport, and tourism. Guangxi's border with Viet Nam is 637 km. Guangxi's trade with Association of Southeast Asian Nations (ASEAN) countries has increased from \$420 million in 2001 to over \$1 billion in 2004, and comprises around 20% of its total foreign trade. Cross-border tourism is flourishing, with an estimated 2 million tourists crossing the Guangxi-Viet Nam border in 2004. Fostering regional cooperation with other GMS countries is one of Guangxi's strategic objectives during the 11th FYP. In line with the strategy, Guangxi gives priority to establishing transport links with neighboring provinces and countries. The proposed Longlin-Baise expressway will be vital to regional integration, particularly through an integrated transport network.

7. The project is in the rural and mountainous territory of northwest Guangxi, which has limited accessibility. The incidence of rural poverty is 24%; most of the population is made up of poor ethnic minorities. The project area consists of one city and two counties. About 80% of the people live in rural areas. Ethnic minorities, mainly Zhuang, account for some 87% of the population. The area's remoteness and inadequate roads are among the main causes of the area's high poverty.

8. Traffic volume along the existing national highway, G324, has increased 7% yearly over the last decade as a result of the area's economic growth and rising number of vehicles. However, the highway has poor geometrical and technical standards. More than 90% of G324 between Baise city and Longlin county is class III and in very poor condition. More than 80% of the road has steep slopes, narrow sections, and sharp turns. Overloaded vehicles and nonmotorized traffic intrusions make matters worse. The high number of deaths and injuries resulting from accidents on G324 places a heavy burden on the health and welfare systems of the poor counties in the project area. G324 will exceed its design capacity in 2007. The new highway is thus urgently needed to meet traffic demand along the corridor.

9. The project will construct an access-controlled toll expressway of about 177 km from Longlin to Baise—an alternative high-capacity route to G324. The project is a section of the Shantou-Kunming expressway, which is included in the Government's National Expressway Network Program and the GMS road network. Baise is at the junction of the Shantou-Kunming

³ Of the total rural roads, 479,372 km are county roads, 945,180 km are township roads, and 1,473,534 km are village roads.

expressway and the Guangzhou–Kunming expressway. The project expressway will connect Nanning to the large cities in south PRC, such as Kunming and Guiyang, and thus promote the economic integration of the east and west regions. The project will also support the WRDS, as well as facilitate communication between the southwestern region and the Zhujiang Delta Economic Zone.

10. The trip from Longlin to Baise along G324 takes 5–6 hours. The project expressway, which will be 45 km shorter, will cut travel time to less than 2 hours. By lowering transport costs and improving the frequency and quality of transport services, the project is expected to boost economic activities, thereby helping reduce poverty in the area. Improved transportation will increase income opportunities from cash-crop farming or migration, promote more contact with urban centers, and improve access to markets and social services. Consistent with ADB's operational strategy, the project will also spur trade between Guangxi and the GMS countries, including Viet Nam.

11. The project expressway will directly traverse Longlin and Tianlin counties, and Youjiang district of Baise prefecture, all of which are poor by national and provincial standards. The project area has a high economic potential, as it possesses abundant water and mineral resources, including aluminum, gold, silver, and copper. However, inadequate road infrastructure has slowed down the area's development. In 2004, the per capita GDP of Baise was CNY5,564—only half of the national average. The per capita GDPs of Longlin and Tianlin were even lower at CNY2,949 and CNY3,719. The per capita rural incomes of the city and counties was CNY1,312, CNY1,501, and CNY1,814. Of the 53 townships in the project area, 80% are rural. In 2005, 24% of the rural residents in the project area had a per capita income of less than CNY825. About 87% comprise six ethnic groups: Zhuang, Yao, Miao, Yi, Gelao, and Hui. Because of difficult transport conditions, rural people in the area have to pay high rates for motorized transport, have insufficient access to markets, and have little mobility beyond their immediate communities. The main causes of the depressed economy and poverty in the project area are (i) the limited road access to markets where farming products are sold, and (ii) the inadequate delivery of road infrastructure and services. During the Fact-Finding Mission, the initial poverty and social assessment reviewed the need for a comprehensive assessment of the social context and concluded that the key issues to be analyzed during project preparation are a full resettlement plan, an ethnic minority development plan (EMDP), and the project's socioeconomic impacts.

12. ADB's operating strategy in the PRC's road sector is designed to remove infrastructure constraints and support policy and institutional reforms. Since 1991, ADB has extended 32 loans totaling \$6.4 billion to finance 4,455 km of expressways and 8,366 km of associated local road networks. To make ADB's road projects more pro-poor, the local roads have been included in project scopes since 1995. A portion of some ADB loans has been used to finance the local road component.⁴ To promote pro-poor economic growth, ADB strategy extends its operations to the local roads. In line with ADB's policy dialogue, the project will finance the improvement of transport network by constructing an expressway, and the improvement of local roads. ADB financing to the local road component will ensure the favorable distribution of the project's benefits to the poor in the area.

13. The ADB strategy supports (i) the construction of the roads that connect major growth centers with hinterland economies; (ii) the integration of the network, so that the major trunk

⁴ Ningxia Roads Development Project, Hunan Roads Development II and III Projects, and Guangxi Road Development II Project.

highways are supported by a system of local roads, particularly those that provide access to poor areas; (iii) the adequate delivery of affordable transport services to the poor; (iv) adequate road maintenance; (v) the promotion of road safety; (vi) private sector participation in the road sector; (vii) institutional strengthening to increase financial and managerial efficiency in operation and maintenance; and (viii) the adoption of pricing policies to ensure the optimum use of road transport capacity.

14. The feasibility study for the project was submitted to the Ministry of Communications and National Development and Reform Commission in January 2006, and is expected to be approved by July 2006. The preliminary design is expected to be completed by August 2006. An environmental impact assessment (EIA) was completed and submitted to State Environmental Protection Administration on 30 December 2005. The resettlement plan will be completed by May 2006. The land-use plan was submitted to the Ministry of Land Resources in December 2005. The initial poverty and social assessment and rapid environmental assessment carried out during fact-finding identified the key social and environmental issues that will need to be analyzed further during project preparation (Appendix 2).

III. THE TECHNICAL ASSISTANCE

A. Purpose and Output

15. The TA will help the Government prepare a road network development project to support pro-poor economic growth and reduce poverty in the project area.

B. Methodology and Key Activities

16. The TA will help Guangxi Provincial Communications Department (GPCD) in (i) refine the feasibility study, including an EIA and summary EIA, a resettlement plan, and poverty impact analysis for the project, in conformity with ADB's requirements; (ii) design the project log framework, identify performance targets and socioeconomic impact indicators, and baseline data, and establish a measuring and/or monitoring mechanism; (iii) confirm the technical, economic, and financial viability of the proposed investments; (iv) update transport and road profiles; and (v) review the road sector issues and provide the basis for strengthening the ongoing policy dialogue with the Government in key areas, such as the impact of road projects on poverty reduction, road safety and vehicle emissions, local road maintenance, public transport services, intelligent transport system and asset management, and private sector participation in the road sector.

C. Cost and Financing

17. The total cost of the TA is estimated at \$625,000, of which \$360,750 is the foreign exchange component and the equivalent of \$264,250, the local currency cost. ADB's TA funding program will provide a \$500,000 grant to cover the entire foreign exchange cost and a portion of the local currency cost (\$139,250 equivalent). GPCD will finance the remainder of the total TA cost (\$125,000 equivalent), which will be used to cover office accommodation and support services, local communications, local transport, office supplies, and other facilities and services required to implement the TA. The detailed cost estimates are in Appendix 3. The Government has been advised that approval of the TA does not commit ADB to finance any ensuing project.

D. Implementation Arrangements

18. A team of international consultants, in association with one or more domestic consulting firms, will be engaged, using the simplified technical proposal procedures based on the quality- and cost-based selection method, ADB's *Guidelines on the Use of Consultants*, and other arrangements satisfactory to ADB for the selection and engagement of domestic consultants. The TA will require a total of 29 person-months of consulting services, including 13 international and 16 domestic, to carry out the study, as defined in the outline terms of reference (Appendix 4). The international consultants will provide expertise in (i) structural engineering, (ii) transport economics, (iii) financial analysis and private sector participation in the road sector, (iv) poverty and socioeconomic analysis, and (v) environmental aspects. The domestic consultants will have expertise in (i) highway and structure engineering, (ii) transport economics, (iii) transport services, (iv) financial analysis, (v) socioeconomic and poverty impact analysis, (vi) resettlement, and (vii) environment engineering.

19. GPCD will be the Executing Agency for the TA, responsible for supervising and monitoring TA activities and liaising with government agencies and organizations. GPCD will also provide office accommodation and transport arrangements. The fielding of consultants is scheduled for August 2006; consulting services will be carried out over 5 months, to be completed in February 2007. GPCD will provide ADB and the consultants with the feasibility study; engineering studies; EIA; resettlement plan; and all other materials, recent studies, and reports required to implement the TA. The consultants will maintain close contact with the Government and GPCD, and keep them informed of the progress and findings. Tripartite meetings involving GPCD, ADB staff members, and the consultants will be held in the PRC to advise and guide the consultants and review their reports. The consultants will procure equipment in accordance with ADB's *Procurement Guidelines*.

20. The consultants will submit to ADB and GPCD (i) an inception report, including a survey implementation plan with a proposed questionnaire for socioeconomic, resettlement, and poverty-reduction impacts, 2 weeks after services start; (ii) an interim report, 10 weeks after services start, which will provide a draft project log framework along with socioeconomic impact indicators and their baseline values, assess the need for an EMDP in accordance with ADB's *Policy on Indigenous Peoples* (1998) and present an initial assessment in the areas of economic, financial, and poverty analyses; (iii) a draft final report, the final project framework, summary EIA, draft resettlement plan, draft EMDP, and draft social and poverty assessment report, 14 weeks after services start; and (vi) the final report, summary EIA, resettlement plan, social and poverty assessment report, and EMDP, 2 weeks after receiving comments from ADB and GPCD. ADB requires five copies of each report in English.

IV. THE PRESIDENT'S DECISION

21. The President, acting under the authority delegated by the Board, has approved the provision of technical assistance not exceeding the equivalent of \$500,000 on a grant basis to the Government of the People's Republic of China for preparing the Guangxi Longlin-Baise Expressway Project, and hereby reports this action to the Board.

DESIGN AND MONITORING FRAMEWORK

Design Summary	Performance Targets/Indicators	Data Sources/Reporting Mechanisms	Assumptions and Risks
<p>Impact An integrated road transport network supporting sustainable economic growth in Guangxi province and facilitating regional cooperation with GMS countries</p>	<p>GDP and rural incomes increase, and poverty decreases in the project area</p> <p>International trade between Guangxi and the GMS countries increases</p> <p>A road transport system integrating expressway, local roads, and transport services is established</p>	<p>Provincial and county statistics bureau</p> <p>National and provincial statistics bureau</p> <p>Provincial communications department and project completion report</p>	<p>Assumptions</p> <ul style="list-style-type: none"> • The Government and ADB sign the loan agreement. • Project design is implemented as agreed upon during appraisal. • Local governments are committed to local road development. • Forecast economic growth rates are achieved. • GPCD demonstrates its implementation capacity.
<p>Outcome Project design and feasibility study improved to a level suitable for ADB financing and agreed by the Government and ADB</p>	<p>Memorandum of understanding signed by the Government and ADB during the appraisal mission of April 2007</p>	<p>Memorandum of understanding</p>	<p>Assumptions</p> <ul style="list-style-type: none"> • The Government is willing to make necessary changes in its priorities. • Government obtains the necessary additional sources of funding.
<p>Outputs</p> <p>1. Technical assessments completed</p> <p>2. Project design requirements accomplished</p>	<p>Inception report submitted to the Government and ADB by October 2006</p> <p>Summary EIA and EMP, poverty and social analysis, resettlement plan, and ethnic minority development plan submitted to Government and ADB by September 2006</p>	<p>ADB document registration</p> <p>Government document registration</p>	<p>Assumption</p> <ul style="list-style-type: none"> • Stakeholder participation and ownership are effective. <p>Risks</p> <ul style="list-style-type: none"> • Availability of and access to information and Government personnel are restricted. • Access to geographical sites is restricted.

Design Summary	Performance Targets/Indicators	Data Sources/Reporting Mechanisms	Assumptions and Risks
	Draft final report submitted to the Government and ADB by November 2006		
<p>Activities with Milestones</p> <p>1.1 Analyze transport demand in the region (by October 2006)</p> <p>1.2 Assess the adequacy of road infrastructure (by October 2006)</p> <p>1.3 Assess the adequacy of transport services (by October 2006)</p> <p>1.4 Review the technical and financial aspects related to local road maintenance (by October 2006)</p> <p>1.5 Develop a set of verifiable performance indicators, including socioeconomic and poverty (by November 2006)</p> <p>1.6 Recommend policy reform measures and institutional development needs (by November 2006)</p> <p>1.7 Review the potential for private sector participation (by November 2006)</p> <p>2.1 Consult stakeholders, including Government officials; project beneficiaries; and affected people, including ethnic minority groups and women and the poor (September, October 2006)</p> <p>2.2 Carry out a social and poverty assessment (by November 2006)</p> <p>2.3 Complete a baseline survey (by October 2006)</p> <p>2.4 Carry out financial and economic analysis (by November 2006)</p> <p>2.5 Carry out institutional analysis (by November 2006)</p> <p>2.6 Complete a summary initial environmental examination (by October 2006)</p> <p>2.7 Prepare resettlement and ethnic minorities development plans, if required (by November 2006)</p> <p>2.8 Finalize the project design and monitoring framework (by December 2006)</p>		<p>Inputs</p> <ul style="list-style-type: none"> • 13 person-months of international and 16 person-months of domestic consultant services • ADB: \$500,000 • Government: \$125,000 	

ADB = Asian Development Bank, EIA = environmental impact assessment, EMP = environmental management plan, GDP = gross domestic product, GMS = Greater Mekong Subregion, GPCD = Guangxi Provincial Communications Department.

SOCIAL AND ENVIRONMENTAL ASSESSMENTS

A. Rapid Environmental Assessment

1. Table A2.1 shows the result of rapid environmental screening.

Table A2.1: Rapid Environmental Assessment

Screening Questions	Yes	No	Remarks
A. Project Siting			
Is the project area adjacent to or within any of the following environmentally sensitive areas?			
<ul style="list-style-type: none"> ▪ cultural heritage site, 		X	Not found in the current alignment. It will be confirmed during the TA.
<ul style="list-style-type: none"> ▪ protected area, 	X		Around Chengbi Lake, there are protected areas.
<ul style="list-style-type: none"> ▪ wetland, 		X	Not found in the current alignment. It will be confirmed during the TA.
<ul style="list-style-type: none"> ▪ mangrove, 		X	
<ul style="list-style-type: none"> ▪ estuarine, 		X	
<ul style="list-style-type: none"> ▪ buffer zone of protected area, and 		X	Around Chengbi Lake, there are protected areas, and the alignment is planned in the experimental area.
<ul style="list-style-type: none"> ▪ special area for protecting biodiversity. 	X		In the alignment, several endangered species are found.
B. Potential Environmental Impacts			
Will the Project cause:			
<ul style="list-style-type: none"> ▪ encroachment on historical/cultural areas; disfiguration of landscape by road embankments, cuts, fills, and quarries? 		X	Not found in the current alignment. It will be confirmed during the TA.
<ul style="list-style-type: none"> ▪ encroachment on precious ecology (e.g. sensitive or protected areas)? 	X		In the alignment, several endangered species are found.
<ul style="list-style-type: none"> ▪ alteration of surface water hydrology of waterways crossed by roads, resulting in increased sediment in streams affected by increased soil erosion at construction site? 	X		Without proper measures, the construction and operation of expressway will cause adverse impacts for surface water.
<ul style="list-style-type: none"> ▪ deterioration of surface water quality due to silt runoff and sanitary wastes from worker-based camps and chemicals used in construction? 	X		Without proper measures, the construction and operation of expressway will cause adverse impacts for surface water.
<ul style="list-style-type: none"> ▪ increased local air pollution due to rock crushing, cutting and filling works, and chemicals from asphalt processing? 	X		The construction of expressway will increase air pollution. Adequate measures will mitigate adverse impacts.
<ul style="list-style-type: none"> ▪ noise and vibration due to blasting and other civil works? 	X		The construction of the expressway will increase noise and vibration. Adequate measures will mitigate adverse impacts.
<ul style="list-style-type: none"> ▪ dislocation or involuntary resettlement of people? 	X		The construction will cause involuntary resettlement. A full resettlement plan will be prepared.

Screening Questions	Yes	No	Remarks
<ul style="list-style-type: none"> ▪ other social concerns relating to inconveniences in living conditions in the project areas that may trigger cases of upper respiratory problems and stress? 	X		The expressway construction and operation will cause adverse social impacts as well as positive impacts.
<ul style="list-style-type: none"> ▪ hazardous driving conditions where construction interferes with pre-existing roads? 	X		It may happen. Adequate construction planning can prevent this.
<ul style="list-style-type: none"> ▪ poor sanitation and solid waste disposal in construction camps and work sites, and possible transmission of communicable diseases from workers to local populations? 	X		It may happen. Adequate planning can prevent these problems.
<ul style="list-style-type: none"> ▪ creation of temporary breeding habitats for mosquito vectors of disease? 	X		It may happen. Adequate planning can prevent these problems.
<ul style="list-style-type: none"> ▪ dislocation and compulsory resettlement of people living in right-of-way? 	X		The construction will cause involuntary resettlement. A full resettlement plan will be prepared.
<ul style="list-style-type: none"> ▪ accident risks associated with increased vehicular traffic, leading to accidental spills of toxic materials and loss of life? 	X		It may happen. Adequate planning can mitigate the risk.
<ul style="list-style-type: none"> ▪ increased noise and air pollution resulting from traffic volume? 	X		The operation of the expressway will increase noise and vibration. Adequate measures will mitigate the adverse impacts.
<ul style="list-style-type: none"> ▪ increased risk of water pollution from oil, grease and fuel spills, and other materials from vehicles using the road? 	X		The risk of pollution because of accidental spills will increase. Adequate risk management plan and measures will be taken.

TA = technical assistance.
Source: ADB estimates.

2. After reviewing the answers above, the mission leader and environment specialist agree that the project should be under category A.

Report Required:

For PPTA: _____ **X** _____
For RETA: _____
For Loan/Investment: _____

Report Circulation Required:

To be attached to RRP: []
To be circulated to the Board
120 days prior to loan/investment approval: **[X]**

3. The terms of reference of the summary environmental impact assessment should include (at least) an examination of the project's impacts on (i) land use and protected areas, (ii) noise and air quality, (iii) water, (iv) traffic safety, (v) local community disturbances, and (vi) cultural relics. The terms of reference should ensure that mitigation measures and management procedures are specified and their costs estimated and included in the civil works contracts in conformity with the Asian Development Bank's guidelines.

B. Summary Initial Poverty and Social Analysis

4. The summary initial poverty and social analysis is in Table A2.2.

Table A2.2: Summary Initial Poverty and Social Analysis**A. Linkages to the Country Poverty Analysis**

Is the sector identified as a national priority in country poverty analysis?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is the sector identified as a national priority in country poverty partnership agreement?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<p>Contribution of the sector or subsector to reduce poverty in the People's Republic of China: The transport sector directly reduces poverty by improving access to markets, jobs, and social services, and indirectly by stimulating economic development. Despite its good natural resources, the project area has lagged behind economically mainly because of lack of good transportation, which is limited to a class-II or -III highway. The project will link the Nanning–Baise expressway (Asian Development Bank loan, under construction) to Guizhou province. It is also an important section of the national expressway network. The expressway will reduce travel time and cost for passenger trips and freight transport, thereby facilitating economic development, creating jobs, and improving access to social services.</p>			

B. Poverty Analysis**Targeting Classification: General Intervention**

<p>What type of poverty analysis is needed?</p> <p>The project area is in Baise prefecture, northwest of Guangxi Zhuang Autonomous Region. There are 12 counties and/or districts in Baise: 10 counties are listed as poverty counties by the national standard, and 2 counties and/or districts as provincial poverty counties. The poverty incidence in Baise is 6% (221,834 people) based on the absolute poverty line of CNY625 income per capita and 22% (809,900) based on the relative poverty line (CNY626 to CNY825 income per capita). The poverty incidence in project area is 7.5% (104,633) based on the absolute poverty line, and 23.5% (329,925) based on the relative poverty line.</p> <p>The project will directly reduce poverty by creating construction jobs in the short term and improving access to the market for cash crops. It will substantially improve transport infrastructure that will help develop local enterprises and thereby indirectly provide more local jobs and income-generating opportunities. The project will improve access to social services in the county centers and larger cities. Transportation is inconvenient and education and medical facilities are very basic.</p> <p>During the TA, a detailed poverty analysis will be carried out to identify the causes of poverty, prepare a complementary local road program, quantify how the project will help reduce poverty, and incorporate other social measures within the project scope. The TA will focus on the interventions' impact on the poor and disadvantaged, including the impact of enhanced provision of transport services. The analysis will be based on ADB's <i>Handbook on Poverty and Social Analysis</i> (2001) and <i>Handbook for Integrating Poverty Impact Assessment in the Economic Analysis of Projects</i> (2001). Poverty mapping will help determine the correlation between poverty, ethnic minority nationality, topography, and transport systems. Recommendations from the analysis will be considered for possible inclusion in project design.</p>

C. Participation Process

Is there a stakeholder analysis?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
<p>Stakeholder analysis: Key stakeholders include GPCD, local governments, transport companies, local businesses, and local residents. Consultation began during the preparation of the feasibility study. Further consultation will be carried out for the EIA, resettlement planning, and poverty and social analysis.</p>		
Is there a participation strategy?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
<p>Local communities and people will be consulted during preliminary design on expressway alignment, resettlement policy, and compensation rates. They will participate in formulating village resettlement plans and poverty reduction measures. Local labor will help construct the expressway. Project components will also include linking roads and possibly public transport services.</p>		

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

The TA will investigate opportunities to enhance the benefits to women through improved public transport service and linking road improvements, which lead to better access to education, health care, and markets. Particular focus will be placed on remote and minority villages, where females have limited skills for outside work. A gender analysis in line with ADB's Policy on Gender and Development (2003) is required. Data will be disaggregated by gender. Ways of incorporating gender aspects or mitigating adverse impacts will be investigated for inclusion into the project design, measures for ethnic minorities, and/or the resettlement plan.

Has an output been prepared? Yes No

This will be prepared during the TA.

E. Social Safeguards and Other Social Risks

Item	Significant/ Not Significant/ None	Strategy to Address Issues	Plan Required
Resettlement	<input checked="" type="checkbox"/> Significant <input type="checkbox"/> Not significant <input type="checkbox"/> None	A resettlement plan will be prepared in accordance with the PRC Government regulations and ADB's <i>Policy on Involuntary Resettlement</i> (1995).	<input checked="" type="checkbox"/> Full <input type="checkbox"/> Short <input type="checkbox"/> None
Affordability	<input type="checkbox"/> Significant <input checked="" type="checkbox"/> Not significant <input type="checkbox"/> None	The project will reduce the cost of transportation and goods purchased from outside.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Labor	<input type="checkbox"/> Significant <input checked="" type="checkbox"/> Not significant <input type="checkbox"/> None	The project will help create jobs during construction. The project will not have any adverse impact on labor issues.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Indigenous Peoples	<input checked="" type="checkbox"/> Significant <input type="checkbox"/> Not significant <input type="checkbox"/> None	Ethnic minorities account for 87% of total population in the project area. An ethnic minority development plan will be prepared in accordance with Government policy and ADB's <i>Policy on Indigenous Peoples</i> (1998).	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Other Risks and/or Vulnerabilities	<input checked="" type="checkbox"/> Significant <input type="checkbox"/> Not significant <input type="checkbox"/> None	Guangxi Zhuang Autonomous Region has the third highest HIV incidence in the country, and the project area has one of highest HIV incidences in the province. A social development action plan, including project-related poverty reduction, gender development, and HIV/AIDS prevention, will be prepared.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

ADB = Asian Development Bank, EIA = environmental impact assessment, GPCD = Guangxi Provincial Communications Department, HIV/AIDS = human immunodeficiency virus/acquired immunodeficiency syndrome, PRC = People's Republic of China, TA = technical assistance.

COST ESTIMATES AND FINANCING PLAN
(\$)

Item	Foreign Exchange	Local Currency	Total Cost
A. Asian Development Bank (ADB) Financing^a			
1. Consultants			
a. Remuneration and Per Diem	277,500	96,000	373,500
i. International Consultant	277,500	0	277,500
ii. Domestic Consultant	0	96,000	96,000
b. International and Local Travel	25,000	5,000	30,000
c. Reports and Communications	2,000	8,500	10,500
2. Office Equipment	10,000	0	10,000
3. Surveys, Miscellaneous Administration, and Support Costs	5,000	14,000	19,000
4. Government Representatives for Contract Negotiations	5,000	0	5,000
5. Contingency	36,250	15,750	52,000
Subtotal (A)	360,750	139,250	500,000
B. Government Financing			
1. Office Accommodation and Support Services	0	70,000	70,000
2. Remuneration and Per Diem of Counterpart Staff	0	40,000	40,000
3. Others	0	15,000	15,000
Subtotal (B)	0	125,000	125,000
Total	360,750	264,250	625,000

^a Financed by ADB's technical assistance (TA) funding program.

^b Including computer hardware and software, photocopier, fax machine, and other office equipment to be procured under the consultant's contract, but ownership will be transferred to Guangxi Communications Department at TA completion.

^c Includes the cost of Government observers to attend contract negotiations at ADB headquarters.

Source: ADB estimates.

OUTLINE TERMS OF REFERENCE FOR CONSULTANTS

A. **Highway and Structural Engineer and Team Leader** (international: 5.0 person-months; domestic: 3.0 person-months)¹

1. The consultant will do the following:

- (i) Review all technical aspects of the feasibility study and preliminary engineering designs of the expressway from planning to maintenance, including road safety aspects. Review capacity, geometric design, and road safety features based on the traffic forecasts. Assess the design of each structure on the basis of construction method, material supply, maintenance, and road safety. Recommend design changes and road safety equipment and facilities to improve road safety. Prepare the justifications of the route based on social acceptability, environmental soundness, and construction and maintenance cost.
- (ii) Prepare a road safety management plan to be incorporated as part of the project.
- (iii) Review the preliminary design of bridges, and tunnel portals, tunnel ventilation, lighting, and safety measures. Review the drainage system's capacity, geological conditions, soil treatment measures, and pavement design.
- (iv) Review and update the road sector analysis for the country and province, covering road network; vehicle fleet and traffic; road administration; road sector revenues and expenditures; road engineering, construction, and maintenance; Government's plan to develop road sector including rural roads; and road transport services. Assess the current level of vehicle loading along the existing highway and local roads.
- (v) Describe a current inventory of the road network for each county and city in the project area. Examine the adequacy of the Government's road development plan to provide efficient links with the project expressway. Identify an improvement program for secondary and tertiary road networks, including provincial, county, township, and village roads. For the local road program under the project, review its technical design and specifications, and suggest improvement methods.
- (vi) Review traffic counts and origin–destination surveys. In collaboration with the transport economist, undertake detailed traffic forecasts along the project roads for each type of vehicle for normal, generated, and diverted traffic. Assess the adequacy of the access control of the project expressway and determine the location of toll stations and interchanges considering community and regional planning, impacts of traffic flow around the interchanges, and poverty reduction impacts.
- (vii) Review bills of quantities, unit prices, and costs of (a) civil works for the project roads and local road improvement, and (b) equipment and other facilities to be procured under the project. Review and update the project cost estimates and indicate the foreign exchange and local currency costs. Review construction supervision requirements, recommend international and domestic supervision

¹ The person-month inputs are indicative only.

consultants' inputs, and estimate the associated costs. Prepare terms of reference for consulting services. Prepare a project implementation schedule and review the proposed contract packaging to be procured under the project in accordance with the schedule.

- (viii) Review the current road maintenance operation and management systems. Help the Guangxi Provincial Communications Department (GPCD) develop a sound road maintenance management system. Recommend a suitable type of maintenance contract for the project roads to improve the efficiency and accountability of road maintenance.
- (ix) Assess the intelligent transport system (ITS) and assessment management in the province. Recommend the ITS component to be included in the project. Recommend an asset management program to monitor conditions and operational requirements of the expressway and its connecting roads in the project area. Prepare an asset management development action plan. Based on the ADB format, carefully design a design and monitoring framework for the project, including impact, outcome, outputs, activities, and inputs.

2. The consultant will review the geological condition of the proposed tunnels, preliminary design of tunnel portals, and construction methods. Suggest pilot tunnel, vertical tunnel, and other international practice for long tunnel construction, if required. Review safety measures, including the fire-fighting and emergency plan. Review and suggest, if required, an emergency information system and safety operation system. Review tunnel construction supervision requirements. Review and suggest tunnel construction monitoring measures.

B. Transport Economist and Transport Services (international: 3.0 person-months; domestic: 2 person-months transport economist and 1.5 person-months transport services)

3. The consultant will do the following:

- (i) Review the current and future plans for economic and road development of Guangxi and the project area. Prepare a comprehensive economic profile of the project area. Assess the project's impact on economic growth and poverty reduction and quantify a portion of project benefits accruing to the poor. Justify the project in terms of transport network, economic development, and poverty reduction.
- (ii) Discuss with the provincial Government officials facilitating cross-border transportation in Guangxi, including GPCD's capability.
- (iii) Assess the role of the project in promoting interprovincial and foreign trade; developing domestic markets; and generating jobs, tourism, business development, population growth, migration, urban development, and impact on other travel modes. Assess the benefit of the Nanning–Baise road, which was completed about 5 years ago. Establish a regime of benefit monitoring, based on this scenario, to create a foundation for a database that will be used to examine the social impact and benefits of the project.
- (iv) In collaboration with the engineer, prepare detailed traffic forecasts for each type

of vehicle for normal, generated, and diverted traffic. Assess the impact of toll charges on the traffic forecasts. Include a willingness-to-pay and affordability survey of key users of the corridor.

- (v) Assess the status of small businesses in the project area. Recommend ways to promote small business in the project area. Analyze how the project will help develop small businesses in the project area.
- (vi) Undertake economic evaluation for the project, according to the *Guidelines for Economic Analysis of Projects* of ADB, by comparing cases with and without the project. Calculate the economic internal rate of return based on benefits and costs. Undertake sensitivity analysis by varying project costs, benefits, toll rates, implementation period, traffic, and a combination of these factors and calculate switching values. Carry out risk analysis in accordance with ADB's *Handbook for Integrating Risk Analysis in the Economic Analysis of Projects*.
- (vii) Conduct a survey to develop a profile of transport services in the project area, and assess whether accessibility is affordable for the poor. Assess the status of road transport services in the project area, focusing on the quality and quantity of the transport services, and transport service providers and operators. Assess what type of services can be expanded to meet the demand of the poor. Review the province's overall plan to develop transport service facilities.

C. Financial Analysis and Private Sector Participation Specialist (international, 1.5 person-months; domestic, 1.5 person-months)

4. The consultant will do the following:

- (i) Review and update the financing plan for the project and assess the veracity of various financing sources. Calculate a discounted real return to equity over the project life and assess its suitability for attracting private investors.
- (ii) Compute price contingencies and interest and other financing charges during construction in accordance with *Guidelines for the Financial Governance and Management of Investment Projects Financed by the ADB*. Prepare the financial projections of the project, in accordance with the national financial accounting procedures and regulations and the formats acceptable to ADB.
- (iii) Recommend a cost recovery mechanism or tolling system. Financially evaluate the project by calculating the financial internal rate of return (FIRR), using proposed toll rates, and compare it with a weighted average cost of capital in accordance with *Guidelines for the Financial Governance and Management of Investment Projects Financed by the ADB*. Undertake sensitivity analysis for the project. Assess commercial applications of toll system components, notably, leasing of fiber optic capacity to strengthen the project's financial viability. Undertake a financial management assessment, and assess the financial sustainability, of the operating entity.
- (iv) Review private sector participation and policy reform issues. Examine potential planning, resource needs, and impact on the operation and maintenance of the roads. Review the status of private sector participation in the road sector in

Guangxi. Recommend a corporate structure and appropriate schedule to achieve sound and sustainable commercialization of the expressway operating entity.

D. Social and Poverty Analysis Specialist (international, 2.5 person-months; domestic, 3.0 person-months)

5. The consultant will do the following:

- (i) Describe the Government's policy, strategy, and programs for poverty reduction and economic development. Analyze how the project will complement the Government's programs. Consult with local governments to identify development initiatives that could complement the project. Prepare maps showing the locations of schools and health facilities in the area and indicate how the project will improve access to these services. Assess transport conditions in the area. Describe intermediate means of transport available for the poor in the area.
- (ii) Conduct poverty and social analysis in accordance with ADB's *Handbook on Poverty and Social Analysis* and *Handbook for Integrating Poverty Impact on Economic Analysis of Projects*. Assess how the project will help improve people's incomes and livelihoods. Based on secondary data, review and analyze the income distribution in the project area, and collect additional primary data to establish the income distribution patterns. Examine gender issues.
- (iii) Analyze the vulnerabilities related to trafficking and HIV/AIDS. Identify measures to prevent the spread of sexually transmitted infections in the project area. Identify specific measures to prevent the spread of HIV/AIDS and to mitigate impact, and prepare a plan to handle construction workforce issues.
- (iv) Recommend measures to enhance benefits and minimize adverse impacts, particularly for the poor, women, ethnic minorities, and other vulnerable groups. The actions should be formulated into a social action plan and/or an ethnic minority development plan (EMDP).
- (v) Provide adequate coverage for investigations and consultations with ethnic minorities, in relation to potential impacts or possible enhancement of project benefits. Prepare an EMDP in accordance with ADB's *Policy on Indigenous Peoples* (1998) and *Policy on Gender and Development* (2003). The EMDP should contain a profile of affected ethnic minority villages, social impact assessment, gender analysis, an action plan, budget, implementation arrangements, external monitoring and evaluation, and internal monitoring and supervision.
- (vi) Recommend key issues to be addressed in preparing, designing, and implementing the project. Help GPCD establish consultation and participatory processes. Identify stakeholders and representatives to be consulted to incorporate their needs and demands into the project. Prepare a consultation plan and a format for documenting consultation with project-affected people, local Government officials, and local education officers, listing events and summarizing the outcomes and improvements resulting from consultation.

E. Resettlement Planning Specialist (domestic, 3.0 person-months)

6. The consultant will do the following:

- (i) Review a draft resettlement plan and modify it as required to comply with ADB's policy on involuntary resettlement and OMF2 on Involuntary Resettlement. Identify socioeconomic impacts as a result of land acquisitions, changes in land use or restrictions of access to assets and common property resources. Conduct a socioeconomic survey of project-affected people and seriously affected villages. Ensure that a gender analysis is undertaken and gender impacts are adequately addressed. Identify potential impoverishment risks and vulnerable groups and develop mitigation measures.
- (ii) Define the categories of impact and eligibility of project-affected people for compensation, and prepare an entitlement matrix covering compensation and assistance for all types of impacts to achieve full replacement costs for lost assets, income, and livelihoods. Prepare time-bound village economic rehabilitation plans and conduct in-depth interviews and focus group discussions to determine specific assistance required to restore incomes of project-affected people and their living conditions.
- (iii) Prepare a consultation plan and a format for documenting consultation with affected people in accordance with ADB's *Public Communications Policy* (2005). Help the GPCD expand consultation with the project-affected communities and stakeholders who may be opposed to the project. Assess stakeholders' concerns and consider possible changes in the project design to minimize resettlement impacts.
- (iv) Assess whether (a) the compensation standards for all types of assets, crops, and trees are based on replacement value and discuss in detail the valuation methodology used; and (b) the resettlement budget is sufficient to acquire the land and implement the resettlement plan. Review the organizational structure and capacity and recommend improvements required before the start of land acquisition. Help the GPCD prepare a resettlement schedule.

F. Environmental Impact Assessment Specialist (international, 1.0 person-months; and domestic, 2.0 person-months)

7. The consultant will review the draft environmental impact assessment (EIA) and determine if it includes all project components, and provides at least a qualitative assessment of cumulative and induced impacts. Provide GPCD with recommendations for revisions. To carefully assess the potential impacts on the protected area and endangered species, consult with the concerned agencies responsible for natural reserve management. Assess the environmental conditions in the project area as well as the current negative environmental impacts. Analyze the likely impacts during construction and operation and suggest appropriate mitigation measures. Review the Government's policy and regulations for reducing vehicle emission. Review the proposed measures to mitigate impacts on environment and the cost estimates. Assess the capacity of the GPCD and the expressway company for environmental management and monitoring and recommend measures to strengthen capacity as part of environmental management plan, and review and document public consultation procedure and results.