

ASIAN DEVELOPMENT BANK

TAR: PRC 33460

TECHNICAL ASSISTANCE

TO THE

PEOPLE'S REPUBLIC OF CHINA

FOR THE

SOCIOECONOMIC ASSESSMENT OF ROAD PROJECTS

August 2002

CURRENCY EQUIVALENTS

(as of 30 June 2002)

Currency Unit	–	yuan (CNY)
CNY1.00	=	\$0.1208
\$1.00	=	CNY8.2769

The exchange rate of the yuan is determined under a floating exchange rate system. In this report, an exchange rate of \$1.00 = CNY8.3, the rate prevailing at the time of fact-finding, is used.

ABBREVIATIONS

ADB	–	Asian Development Bank
ICT	–	Institute of Comprehensive Transportation
PRC	–	People's Republic of China
TA	–	technical assistance

NOTES

- (i) The fiscal year (FY) of the Government ends on 31 December.
- (ii) In this report, "\$" refers to US dollars.

I. INTRODUCTION

1. During the 2001 Country Programming Mission of the Asian Development Bank (ADB), the Government of the People's Republic of China (PRC) requested technical assistance (TA) to strengthen socioeconomic assessment procedures of road projects including strengthening of planning, monitoring, and evaluation, with a greater focus on poverty. In response to the request, a TA preparation mission visited the PRC in March 2002 and reached an understanding with the Government on the objectives, scope, cost estimates, financing plan, and implementation arrangements for this TA. The TA is included in ADB's 2002 country assistance plan for the PRC.¹ The TA framework is presented in Appendix 1.

II. ISSUES

2. The poor are often identified as those who are unable to access at least minimal infrastructure services, thereby facing extreme limitations in mobility and/or communication. Thus, being confined mostly to their immediate settlements, they are unable to fully utilize their resources—goods and labor. This lowers their productivity. From this standpoint, poverty reduction centers on promoting opportunities, such as facilitating access to resources and productive employment, enhancing security and reducing vulnerability to external shocks, and empowering by increasing the participation of the poor in decision making.

3. A road network is an essential requirement for poverty reduction as it provides access to markets, integrates markets in different areas, mitigates the risks to which the poor are often more exposed, and improves social welfare resulting from the increased accessibility to basic social services. For rural residents, better mobility and delivery of services due to improved roads help them earn higher wages and diversify their economic activities. Employment generation resulting from road construction and maintenance or from enhanced business opportunities—the outcome of increased economic activity—is crucial in raising income. Empirical studies have shown that a significant portion of rural poverty reduction is attributable to nonfarm employment and wage increases. Road investment has a significant impact on creating such opportunities in the rural economy.² The availability of reliable transport to input and output markets stimulates cash-crop farming in isolated areas, and lowers transport costs, which influences access to off-farm employment opportunities. The transition from subsistence farming to a market economy is thus accelerated, so that the poor are better off than merely being self-sufficient.

4. From a macroeconomic point of view, this is envisaged as the role of road development in catalyzing economic growth, which may improve poor people's incomes and eventual well-being. Better transport links improve economic efficiency, foster trade, facilitate interregional integration, and reduce the cost of trucking. Coupled with expressways, improved local roads will help boost the rural economy by providing the less developed communities better access to regional market centers. Further, the combined services of adequate expressways and local roads are a prerequisite to pro-poor economic growth since they help spread economic and social benefits to a wider cross-section of local poor communities. In this context, the macroeconomic benefits of a better road network as a whole may be much larger than the sum of the direct effects on individual beneficiaries.

¹ The TA was first listed in ADB *Business Opportunities* in February 2002.

² Examples of studies include: Fan, S., Zhang, L., and Zhang, X. 2001. Growth, Inequality, and Poverty in Rural China: The Role of Public Investments. International Food Policy Research Institute, Washington D.C., and Kwon, Eunkyung. 2000. Infrastructure, Growth, and Poverty Reduction in Indonesia: A Cross-Sectional Analysis. ADB, Manila.

5. However, the nature and extent of indirect, macro-level effects have not yet been appropriately assessed. There is limited understanding of the degree to which expressway investments improve the rural poor's access to opportunity; i.e., the extent to which the tie-ins of rural roads to more major roads increase the rural community's access to basic services and a wider range of farm and nonfarm productive opportunities. As a result, the integrated benefits of road infrastructure have not been adequately incorporated in project assessment. Such knowledge is essential for identifying the effective linkages between the road investment and the flow of benefits to the poor, and monitoring these linkages. The proposed study will help address this deficiency.

6. The poverty reduction strategy requires ADB-financed investments to have the greatest possible impact on poverty. This necessitates in-depth socioeconomic assessment during the preparation and implementation of road projects. At the planning stage, socioeconomic analysis is needed to determine the scope, distribution, and intensity of likely impacts. This helps formulate the most appropriate strategies to introduce measures that maximize the benefits to the poor and assist particularly vulnerable groups. Project monitoring and evaluation is based on a socioeconomic assessment of those affected, not only to determine the extent to which incomes and living standards have been improved,³ but also to ensure that benefits actually flowed to the community in general and not just to a few privileged individuals, whether local elites or outsiders.⁴ Socioeconomic assessments are the basis of poverty analysis for the distribution, depth, patterns, and underlying causes of poverty. Such an analysis could, in turn, help identify options for reducing poverty and poverty-related risks through modifications to the investment design, as well as monitoring and evaluation.

7. While socioeconomic assessment has been conducted during various stages in road projects, methods to integrate poverty concerns more explicitly into project design, monitoring, and evaluation have yet to be developed. Although most road projects include project monitoring and evaluation, the indicators mainly measure development outcomes rather than poverty outcomes. Systematic procedures for, and contents of, poverty monitoring are less established. Guidelines also need to be developed on how to take poverty reduction into account in program analysis.

8. The impact of road interventions on poverty reduction is strongly influenced by the context in which these interventions take place. Even within a given context, poverty reduction outcomes associated with road investment may vary, depending on other factors.⁵ However, most existing monitoring or evaluation methods do not systematically present before-and-after data on poverty, nor do they evaluate the complementary actions that could have helped a road project to better reduce poverty. Without such considerations, socioeconomic assessments may understate or misread the poverty-reducing effects of road investments.

9. An ongoing study on the link between infrastructure and poverty reduction, is conducting case studies to improve the understanding of how transport fulfills a role in poverty reduction

³ The socioeconomic assessment of the affected group is of particular importance for resettlement planning, monitoring, and evaluation to determine the scope and the likely impacts.

⁴ ADB. 2000. *Technical Assistance to the People's Republic of China for Capacity Building for Social Assessments*, is being conducted to strengthen social assessment. This TA focuses on gender and development, indigenous peoples, cooperation with nongovernment organizations, and management guidelines on the participatory framework in the PRC.

⁵ The factors may include policy framework, natural resource endowment, the level of urbanization and technology, nonfarm employment, and cultural aspects. For a transport project, some of these are exogenous, while others are endogenously derived by transport investment itself.

and to measure the impact on poverty.⁶ The case studies in several developing member countries will provide analytical underpinning for the impacts of transport investments. However, the studies' conclusions are limited to the circumstances of each case.⁷ More emphasis is required on putting their results into operation and thus assisting in project appraisal and monitoring. The current TA will address this need.

10. The TA will complement similar initiatives undertaken under previous TA (footnotes 4 and 6).⁸ The TA will build on their findings and develop the baseline framework for socio-economic assessment that will put a greater focus on poverty in all stages of a road project cycle. In assessing actual activities, the TA will in particular seek to incorporate the expected indirect, macroeconomic effects of roads. Hence, the TA will sharpen ADB's strategic tools for accelerating poverty reduction through investments in roads.

III. THE TECHNICAL ASSISTANCE

A. Purpose and Output

11. The primary objectives of the TA are to (i) develop analytical tools to assist in predicting the direct and indirect effects of roads, (ii) identify the effective linkages between the expressway investment and the flow of benefits to the poor, and (iii) strengthen a baseline socioeconomic assessment framework to effectively monitor these linkages.

12. The major activities of the TA are to (i) quantify the direct and indirect effects of road projects, (ii) operationalize the implications of the expected macro-level effects at the project-level assessment, (iii) determine the extent to which expressway investments contribute to bigger access to opportunity for the rural poor, (iv) design indicators that can be monitored for such impacts, and (v) develop a monitoring framework to assess the contribution to poverty reduction of such impacts of the PRC's road projects.

B. Methodology and Key Activities

13. The TA will have two components: a macro study and a project-level study. The macro study will (i) review existing findings regarding the link between roads and economic growth, and roads and poverty reduction, (ii) set up a theoretical framework, and (iii) conduct an empirical analysis to quantify the indirect macroeconomic effects of road investment. This study will provide recommendations on how to incorporate knowledge of indirect, macroeconomic effects of road investment into ADB operations at the project level.

14. The project-level study will (i) review the findings of existing studies, including those of the TA on impacts on poverty reduction (footnote 6); (ii) review past and ongoing project experience in the PRC; (iii) examine the current socioeconomic assessment used in project preparation and implementation; (iv) determine the extent to which the tie-ins of rural roads to more major roads increase the rural community's access to basic services and a wider range of farm and nonfarm productive opportunities; (v) identify effective linkages between the

⁶ ADB. 2000. *Regional Technical Assistance for Assessing the Impact of Transport and Energy Infrastructure on Poverty Reduction*.

⁷ Stage 2 of the TA (footnote 6) consists of several case studies in the PRC, India, and Thailand. One case study is for a road project in Shaanxi Province of the PRC. The Shaanxi case study focuses on the impact of transport on migration. The current TA focuses on methodological aspects of poverty reduction impact assessment.

⁸ During the preparation of this current TA, the Mission confirmed that the TA will not duplicate but complement other assistance agencies' ongoing or expected activities in the PRC.

investment and the flow of benefits to the poor, (v) design a set of monitorable indicators and a framework to monitor these linkages; and (vi) undertake a case study to field test the proposed indicators and monitoring framework.

15. In the project-level study, monitoring indicators, particularly for expressways and rural road projects, will be designed with attention to: (i) vulnerability and the diversification of income-generating activities; (ii) agricultural and industrial production; (iii) social services; (iv) participation, empowerment, and social exclusion; and (v) environment. Measurable benchmarks for the indicators will also be provided. Road impacts will be evaluated by conducting two types of analyses: (i) for the project considered, current conditions will be compared with those before the investment; and (ii) conditions in the road project will be compared with those of a control road that did not benefit from improvements within the study period. For the case study, two projects—one expressway and one rural road—will be selected during the inception period, using the following criteria: (i) track record of having an improved road, and (ii) availability of poverty and socioeconomic data for the period to be analyzed.

16. A report will be prepared, consolidating the findings of these two studies. The TA will (i) identify the elements (policy issues, socioeconomic context, and project design characteristics) that have facilitated or hampered a broad-based distribution of the project's benefits, focusing on low-income beneficiaries; (ii) provide lessons learned and good practices directly applicable to future ADB operations in the PRC; and (iii) make practical recommendations on areas of intervention in the road sector, and needed refinements in planning, design, monitoring, and evaluation of road projects.

17. Three tripartite meetings involving the Institute of Comprehensive Transportation (ICT), the Executing Agency, ADB staff concerned, and the study teams will be held to (i) share views and ideas on the findings of the study, and (ii) discuss the implications of adopting the recommendations of the macro study at the project level. After the submission of the draft final report, a seminar will be held to disseminate the TA findings.

C. Cost and Financing

18. The total cost of the TA is estimated at \$400,000 equivalent, comprising \$187,000 in foreign exchange and \$213,000 equivalent in local currency costs (Appendix 2). The Government has asked ADB to provide \$250,000 equivalent to cover the entire foreign exchange cost and \$63,000 equivalent of the local currency cost. The TA will be financed by ADB on a grant basis from the ADB-funded Technical Assistance Special Fund. ICT will finance the remaining local currency cost of \$150,000. The ICT-financed portion will cover local costs related to counterpart staff, interpreters, office accommodation and support services, local communications, local transportation in the field, and other facilities.

D. Implementation Arrangements

19. ICT, the executing agency, is a national research institute in Beijing that reports directly to the State Department Planning Commission. The professional staff assigned from ICT will work with the TA consultants and coordinate activities under the TA. ICT will finance all the expenses of the participants for the seminar, including secretarial services, as well as all necessary logistical support for organizing the seminar. The provision of the seminar venue and preparation of the supporting materials including presentation equipment during the seminar are included in the TA budget.

20. The TA will require 12 person-months of consulting services—6 person-months of international and 6 person-months of domestic—to conduct the study. The outline terms of reference for consulting services are provided in Appendix 3. The consultants will form two study teams, consisting of one international consultant and one domestic consultant for each study. The macro study will require expertise in macroeconomics and econometrics, and the project-level study will require expertise in transport economics, and poverty and social analysis. All consultants will be individually selected and engaged in accordance with the ADB's *Guidelines on the Use of Consultants* and other arrangements for the selection and engagement of domestic consultants. Consultant recruitment and mobilization is scheduled in December 2002, and study completion is scheduled for April 2003.⁹

21. The TA will involve an advisory committee headed by the director of the East and Central Asia Department, Infrastructure Division of ADB. The members of the committee will be representatives from the Economics and Research Department, Operations Evaluation Department, the PRC Resident Mission, Regional and Sustainable Development Department, and Transport Committee of ADB. The advisory committee will guide the study teams in project-specific concerns or poverty-related issues, as well as recommend how to enhance the operational relevance of the study. Other regional departments will be regularly updated on TA progress. During TA implementation, extensive collaboration with the Ministry of Finance, State Development Planning Commission, Ministry of Communications, and other government agencies concerned will be needed to discuss interministerial issues. The Ministry of Finance will handle the necessary coordination of central government agencies. ICT will be responsible for the coordination of the different provincial agencies to facilitate the case study.

IV. THE PRESIDENT'S DECISION

22. The President, acting under the authority delegated by the Board, has approved the provision of technical assistance not exceeding the equivalent of \$250,000 on a grant basis to the Government of the People's Republic of China for the Socioeconomic Assessment of Road Projects, and hereby reports this action to the Board.

⁹ Breaks due to Christmas and Chinese New Year holidays are included.

TECHNICAL ASSISTANCE FRAMEWORK

Design Summary	Performance Indicators/Targets	Monitoring Mechanisms	Assumptions and Risks
<p>Goal</p> <ul style="list-style-type: none"> Strengthen road projects in the People's Republic of China (PRC) with a greater focus on poverty. 		<ul style="list-style-type: none"> Economic reports Future poverty assessments 	
<p>Purpose</p> <ul style="list-style-type: none"> Develop analytical tools to assist in predicting direct and indirect effects of roads. Identify the effective linkages between the investment and the flow of benefits to the poor. Strengthen a baseline socio-economic assessment framework to effectively monitor these linkages. 	<ul style="list-style-type: none"> Socioeconomic assessments refined in all stages of the project cycle 	<ul style="list-style-type: none"> Monitoring scheme for the future road projects in the PRC Future ADB country programming and road sector discussions 	<ul style="list-style-type: none"> Results of the technical assistance (TA) are incorporated in future ADB lending and programming. Assume that contextual situations and external shocks will not hinder poverty reduction impacts of road projects.
<p>Components/Outputs</p> <p>Macro-level study (macro)</p> <ul style="list-style-type: none"> Develop an analytical model, which will quantify indirect effects of road investment at the macroeconomic level Provide recommendations on how to harness positive macroeconomic effects of road projects 	<ul style="list-style-type: none"> Started in December 2002, complete by February 2003 (8 weeks).* Ensured that the outputs developed are of good quality and are well disseminated Pragmatic recommendations are developed in consultation with clients 	<ul style="list-style-type: none"> Supervised by concerned ADB staff and the advisory committee 	<ul style="list-style-type: none"> Assumed that PRC decision makers will adopt the framework and the analytical model to design better road projects Assumed that TA recommendations will be adopted by the Government Assumed monitoring of impacts are carried out as planned
<p>A project-level study (micro)</p> <ul style="list-style-type: none"> Identify the link between expressways and rural roads in generating the benefits to the rural poor. Determine the extent to which expressway investments contribute to enlarged access to opportunity for the rural poor. Determine the extent to which rural roads tie-ins to more major roads results in an increase in rural community access to basic services and access to a wider range of farm and non-farm productive opportunities. 	<ul style="list-style-type: none"> Started in December 2002, completed by February 2003 (16 weeks)* Indicators have measurable benchmarks and can be monitored cost-effectively 	<ul style="list-style-type: none"> Supervised by concerned ADB staff and the advisory committee 	<ul style="list-style-type: none"> Assumed availability of project information and successful implementation of the case study survey

* Breaks due to Christmas and Chinese New Year holidays in February 2003 are included.

Design Summary	Performance Indicators/Targets	Monitoring Mechanisms	Assumptions and Risks
<ul style="list-style-type: none"> Design a set of monitorable indicators and a framework to effectively monitor these linkages. Conduct a case study. 			
<p>Activities</p> <ul style="list-style-type: none"> Review existing studies regarding the link between roads and economic growth, and roads and poverty. Develop an analytical framework that will quantify indirect effects of road projects. Conduct an empirical analysis to quantify the indirect effects of road investment. Review the findings of existing studies, and past and ongoing project experience in the PRC. Review the current socioeconomic assessment used in project preparation and implementation. Identify the link between expressways and rural roads in generating the benefits to the rural poor. Determine the extent to which expressway investments contribute to enlarged access to opportunity for the rural poor. Identify the effective linkages between the investment and the flow of benefits to the poor, and monitoring these linkages. Incorporate macroeconomic implications into the project-level study. Identify a set of monitorable indicators and format to effectively monitor the linkages. Conduct a case study. Seminar to disseminate TA findings. 	<ul style="list-style-type: none"> Two weeks from the commencement in December 2002 (macro team) Two weeks after literature review (macro) Three weeks after setting up the framework (macro) One week from the commencement in December 2002 (micro team) One week after review of the existing findings (micro) Two weeks (micro) Two weeks (micro) Two weeks (micro) One week (macro and micro teams) Three weeks (micro) Three weeks (micro) One week (micro) 	<ul style="list-style-type: none"> Review missions Inception report Interim report Draft final report Final report Dissemination seminar 	<ul style="list-style-type: none"> Assumed domestic and international consultants, macro and micro teams will work collaboratively with each other and the Institute of Comprehensive Transportation (ICT) Assumed availability of competent consultants Assumed activities are carried out in a timely manner Availability of results of ongoing TAs
<p>Inputs</p> <p>Consultant services</p> <ul style="list-style-type: none"> 6 person-months of international consulting services and 6 person-months of domestic consulting services 	<ul style="list-style-type: none"> Timely recruitment of consultants in accordance with ADB guidelines 	<ul style="list-style-type: none"> Evaluation of consultant's proposals Contract negotiations 	<ul style="list-style-type: none"> Timely approval of TA Good cooperation of government agencies and ICT; availability of qualified counterpart staff

Design Summary	Performance Indicators/Targets	Monitoring Mechanisms	Assumptions and Risks
<ul style="list-style-type: none"> • Information and data, necessary facilities, and assistance provided by the ICT and government agencies concerned. • Good quality ADB supervision of TA • TA financing of \$250,000 on a grant basis from the ADB-funded Technical Assistance Special Fund. 	<ul style="list-style-type: none"> • Nomination of efficient counterpart staff and delivery of funds as required • Timely submission of information and data • Timely review of TA implementation and appropriate guidance provided by ADB • TA approved by ADB TA letter signed by ADB and the Government 	<ul style="list-style-type: none"> • Review missions. • TA review missions and performance of the TA consultants; quality of the draft final report and TA implementation • Inception mission, TA tripartite meetings, and a seminar • Internal review of the TA paper 	<ul style="list-style-type: none"> • Close monitoring of TA implementation by ADB and timely fielding of review missions

COST ESTIMATES AND FINANCING PLAN
(\$ '000)

Item	Foreign Exchange	Local Currency	Total Cost
A. Asian Development Bank Financing^a			
1. Consultants			
a. Remuneration and Per Diem			
i. International Consultants	143.7	0.0	143.7
ii. Domestic Consultants	0.0	34.5	34.5
b. International and Local Travel	10.0	2.0	12.0
c. Reports and Communications	1.0	6.0	7.0
2. Equipment ^b	7.0	0.0	7.0
3. Seminars and Conferences	1.0	3.0	4.0
4. Surveys	1.0	4.5	5.5
5. Miscellaneous and Administration Support Costs	1.3	3.0	4.3
6. Representatives for Contract Negotiations ^b	5.0	0.0	5.0
7. Contingencies	17.0	10.0	27.0
Subtotal (A)	187.0	63.0	250.0
B. Government Financing			
1. Office Accommodation and Transport	0.0	80.0	80.0
2. Remuneration and Per Diem of Counterpart Staff	0.0	50.0	50.0
3. Others	0.0	20.0	20.0
Subtotal (B)	0.0	150.0	150.0
Total	187.0	213.0	400.0

^a From the Asian Development Bank-funded Technical Assistance Special Fund.

^b Including computer hardware/software, photocopier, fax machine, and other office equipment to be procured under the consultant's contract, but ownership will be transferred to the Institute of Comprehensive Transportation at the completion of technical assistance. Equipment will be procured by the consultant (Team Leader) in accordance with the Asian Development Bank's *Guidelines for Procurement*.

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

Source: Asian Development Bank estimates.

OUTLINE TERMS OF REFERENCE FOR CONSULTING SERVICES

1. The services to be provided by the international and domestic consultants will include the following.

A. International Consultants

1. Macroeconomist (specialized in growth, poverty, and econometrics)

2. Conduct an extensive review on literature regarding the macro effects of road investment. Assess the findings, conclusions, and implications of the previous studies, with attention to the present state and need.

3. Over the last three decades, analyze (i) macroeconomic development in the People's Republic of China (PRC)—including historical trends of economic growth, and road investment and capital, at the national and provincial levels; (ii) background social and macroeconomic conditions in provinces and the country; (iii) government expenditures on road infrastructure; and (iv) government policies on poverty reduction and economic development, including social and road development.

4. Review existing theoretical models that identify the contribution of road investment to economic growth and poverty reduction. Assess their strengths and limitations. Propose a theoretical framework to be used for the study. Also propose the most appropriate technique for the estimation of the proposed model. Hold discussions with Asian Development Bank (ADB) staff to review existing and planned methods of identifying the role of road infrastructure in poverty reduction.

5. Prepare a list of variables required to estimate the proposed model. Assess the availability of provincial data for the cross-sectional analysis. Supervise data work by the domestic consultant. Take necessary and timely actions of completion, revision, or correction of data, in response to the feedback or concerns raised by the ADB staff concerned after the data are reviewed.

6. Review the analytical issue on the definition of poverty. Compile poverty data at the provincial level, time-series during the study period using three definitions of poverty: (i) The PRC's official poverty line, (ii) the \$1 per day figures, and (iii) ADB's official poverty line for the PRC.

7. Conduct empirical analysis. Resolve any potential econometric issues in the estimation, using appropriate econometric techniques. Provide the implications of the estimation results, and confirm the relevance of the estimates of the parameters. Repeat the estimation, with loosening assumptions if desired. Hold extensive discussions on the results with the ADB staff concerned and modify the model as necessary. Compare the results with existing studies in other countries, and provide PRC-specific implications for road investment.

8. Prepare inception, interim, and final reports for the macro study. Prepare papers and other items to be submitted for interdepartmental reviews as required. Present a summary of the results and discuss their implications with the project-level study team and ADB staff concerned.

9. In collaboration with the project-level study team, recommend (i) how to harness the positive macroeconomic effects of road projects, and (ii) how to incorporate the findings and their implications obtained in the macro study into the project-level assessment including monitoring indicators and framework. In collaboration with the project-level study team, organize a seminar to disseminate the findings and results.

2. Transport Economist (specialized in poverty and social development)

10. Review existing studies, including technical assistance (TA) 5947, TA 3441, TA 3150, and TA 5894, to identify the present state of knowledge regarding how and how much roads contribute to poverty reduction. Assess the findings, conclusions, recommendations, and implications of the previous studies, with attention to the present state and need. Review the channels presented in the existing studies through which road infrastructure filters, beyond the physical investment, down to the rural economy and poverty reduction. Evaluate the adequacy of existing methods for identifying this contribution for road projects.

11. Identify a conceptual link between expressways and rural roads in generating benefits to the rural community. Determine the extent to which expressway investments contribute to bigger access to opportunity for the rural poor, and the degree to which expressway investments improve the rural poor's access to opportunity, and the extent to which the tie-ins of rural roads to more major roads increase the rural community's access to basic services and a wider range of farm and nonfarm productive opportunities. Identify effective linkages between the investment and the flow of benefits to the poor, and develop a tool to effectively monitor these linkages.

12. Review past and ongoing project experience in the PRC with attention to socioeconomic assessment in all stages of a project cycle. Identify and disseminate information on good-practice cases.

13. Look into the current socioeconomic assessment methods during project planning, implementation, monitoring, and evaluation for ADB-financed road projects in the PRC; and identify areas where refinement is needed. In particular, review the methodologies for social and economic assessment as set out in the ADB document, *Guidelines for Feasibility Studies of Investment Projects* (March 2002).

14. Review the monitoring indicators presented in the existing studies and assess the areas where modification/refinement is needed for road projects. In particular, assess the advantages and limitations of the current monitoring systems for ethnic minorities in ADB road projects.

15. Design appropriate tools to compare current socioeconomic conditions with those before the investment. Define the project area (project zone) and control road area (control zone) that did not benefit from improvements within the period of the study. Set up the variables as baseline data.

16. Design and propose sets of monitoring indicators for expressways and rural roads, with greater attention to (i) vulnerability and diversification of income-generating activities; (ii) agricultural and industrial production; (iii) social services; (iv) participation, empowerment, and social exclusion; and (v) environment. Propose measurable benchmarks for the indicators. Carry out the same exercise focusing on the ethnic minorities.

17. Based on the proposed monitoring indicators, design and implement baseline surveys and follow-up surveys. In doing this, consider the following issues: (i) which types of investments generate most immediate poverty reduction benefits: expressways or rural roads; (ii) the degree to which expressway investments improve the rural poor's access to opportunity; (iii) the extent to which the tie-ins of rural roads to more major roads increase the rural community's access to basic services and a wider range of farm and nonfarm productive opportunities; (iv) to what extent is unpaid labor still used in transport projects; (v) to what extent do the local poor, as opposed to incoming contract workers, actually benefit from unskilled paid labor opportunities in the transport sector; (vi) are people displaced during construction able to restore their economic and social base; (vii) do they fall behind other people in terms of timing and capacity to benefit from road project; and (viii) what factors are likely to stimulate the widely expected complementary developments that roads are so widely expected to bring—farm inputs, electrification, health, and education services?
18. Review current monitoring procedures. Assess the advantages and limitations of current monitoring systems in ADB road projects. Identify the needs and areas where the practical applicability should be improved.
19. Define which contextual variables and situational factors are relevant for poverty reduction in each mode setting. Identify data and information requirements, and prepare an implementation plan. Recommend a technique that can isolate a road-driven component from the combined effects on poverty reduction.
20. Recommend the most appropriate methodologies and framework to monitor and evaluate the socioeconomic impacts of road projects. Prepare standardized guidelines on how efficiently and effectively the indicators can be monitored. Provide resource implications of operationalizing the proposed monitoring scheme.
21. Following the results of the project-level study, conduct a case study: (i) select a road project(s) for a pilot case study; (ii) design, coordinate, and supervise the case study, along with a participatory survey instrument to obtain the opinions of community members, including the poor, about the impacts of the road(s) on poverty reduction and people's well-being; (iii) prepare a detailed methodology to implement the case study; (iv) review and edit the written reports of participatory surveys in the project; and (v) ensure quality control and prepare a report of the case study. Quantify the assessment by conducting two types of analyses; (i) for the project considered, compare current conditions with those before the investments; and (ii) compare conditions in the road project to those of a control road that did not benefit from improvements within the study period.
22. In collaboration with the macro study team, propose (i) how to harness positive macroeconomic effects of road projects, and (ii) how to incorporate the findings and their implications obtained in the macro study into the project-level assessment including monitoring framework.
23. In collaboration with the macro study team, (i) identify the elements (policy issues, socioeconomic context, and project design characteristics) that have facilitated or hampered a broad-based distribution of the project's benefits, focusing on low-income beneficiaries; (ii) identify the specific areas in which road projects contribute to economic growth, socioeconomic development, and poverty reduction; (iii) provide lessons learned and good practices directly applicable to future ADB operations in the PRC; and (iv) make recommendations on areas of intervention in the road sector and needed changes in project design and implementation.

24. Prepare inception, interim, and final reports for the project-level study. The inception report should contain the overall conceptualization of the TA, TA framework, proposed approach, methodology, work plan and schedule, detailed terms of reference for team members, and management and coordination arrangements.

25. Prepare an overall report of the TA findings, including an executive summary of the TA and compilation of the reports of the project-level study and the macro study. Based on the findings of the macro and project-level studies, prepare a conceptual framework to represent how road projects contribute to poverty reduction. Prepare papers and other items to be submitted for interdepartmental reviews as required. Consolidate two sets of reports from the two studies and submit them to ADB.

26. In collaboration with the macro study team, organize a seminar to (i) disseminate the findings and results, and (ii) share views and ideas with the Institute of Comprehensive Transportation (ICT), the government concerned, the project teams, and ADB staff concerned.

B. Domestic Consultants

27. The domestic consultants will carry out their assignments under the general supervision of the international consultants.

1. Macroeconomist/Econometrician

28. Assist the international consultant in conducting the macro empirical study.

29. Assist in preparing a list of variables required for estimating the proposed model and assessing the availability of data.

30. Conduct in-depth data work: (i) identify the official sources of the data of all variables required by the study; (ii) fully document the definition, the unit of measurement, and the exact sources (surveys or censuses or administrative reports) of all variables; and write a short report; (iii) compile the data for all variables as specified by the study by a due date; (iv) convert current values into constant values, and derive the indicators from other variables using the formulas specified by the study; (v) store the data in Excel format, save in the diskette, and send the diskette data and the document of definition, data sources, and unit of measurement to ADB by a due date; and (vi) take necessary and timely actions of completion, revision, or correction of data, in response to the feedback or concerns from the ADB after the data are reviewed.

2. Transport Economist and Poverty and Social Specialist

31. Assist the international consultant in conducting the project-level study.

32. Coordinate the process of case study selection, taking into account the views of the key provincial agencies concerned with transport and poverty reduction. Coordinate the implementation of the case study, including field work.

33. Assist the macro study team in compiling provincial poverty data, time-series during the study period using three definitions of poverty: (i) The PRC's official poverty line, (ii) the \$1 per day figures, and (iii) ADB's official poverty line for the PRC.

34. Provide transport and poverty expertise to assist the international consultant in the selection of a case project(s) and design of methodologies. Obtain relevant transport, poverty, economic, and human development data for use in the case study, including poverty head-count ratio, per capita income, a growth elasticity of poverty reduction, social indicators, and profiles of the case study area.

35. As part of case study work, conduct interview-based research to identify the nature and extent of the impacts of road improvement on poverty reduction. Conduct desk research, including the assimilation of a database of reports and studies on road and poverty reduction.

36. Adapt the participatory research instrument for use in a project. Conduct a pilot test on the participatory survey instrument and refine it as appropriate. Plan and manage participatory survey fieldwork for a case study. Prepare a full record of the participatory survey results.

C. Reporting Requirements

37. The consulting services will be carried out over a 4 months with completion in March 2003.¹ Three tripartite meetings, involving ICT, ADB staff, and the consultants, will be held to discuss and review the findings of the inception, interim, and draft final reports. These reports will be submitted to ADB following this schedule: (i) inception report—4 weeks after the commencement of services; (ii) interim report—8 weeks after commencement; (iii) draft final report—12 weeks after commencement of services; and (iii) final report—4 weeks after the seminar. After the submission of the draft final report, a seminar will be held in Beijing to disseminate the findings of the TA. Each report should be submitted in English to the Ministry of Finance, State Development Planning Commission, Ministry of Communications, and ICT. ADB requires three copies of each report (except for the final report for which five copies are required).

¹ Breaks due to Christmas and Chinese New Year holidays are included.