

TAR: IND 38255

Technical Assistance to India for Preparing the Uttaranchal State Roads Project

July 2005

Asian Development Bank

CURRENCY EQUIVALENTS

(as of 30 June 2005)

Currency Unit	–	rupee/rupees (Re/Rs)
Re1.00	=	\$0.0231
\$1.00	=	Rs43.38

ABBREVIATIONS

ADB	–	Asian Development Bank
BRO	–	Boarder Roads Organization
DFR	–	draft final report
EIA	–	environmental impact assessment
EIRR	–	economic internal rate of return
IEE	–	initial environmental examination
NPV	–	net present value
PSA	–	poverty and social analysis
PSC	–	project steering committee
PWD	–	Public Works Department
RP	–	resettlement plan
SGOU	–	state government of Uttaranchal
SRP	–	short resettlement plan
TA	–	technical assistance

TECHNICAL ASSISTANCE CLASSIFICATION

Targeting	–	General intervention
Classification		
Sector	–	Transportation and communication
Subsector	–	Roads and highways
Themes	–	Sustainable economic growth, governance
Subthemes	–	Fostering physical infrastructure development, public governance

NOTE

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

This report was prepared by P. N. Seneviratne (team leader), M. Gupta, and D. Utami, Transport and Communications Division, South Asia Department.

I. INTRODUCTION

1. This project preparatory technical assistance (TA) is included in the country strategy and program update for 2005–2007 under the 2005 technical assistance program and 2006 lending program of the Asian Development Bank (ADB) for India.¹ The Fact-Finding Mission visited India from 7 to 15 February 2005, and reached an understanding with the Government of India regarding the goals, outputs, activities, implementing and financing arrangements, and counterpart support as outlined in the preliminary design and monitoring framework in Appendix 1.²

II. ISSUES

2. The 54,000 square-kilometer state of Uttaranchal was created as the 27th state of India by bifurcating the state of Uttar Pradesh in November 2000. Over 90% of its terrain is hilly with the highest point reaching 7,817 meters, and 62% is forest covered. Over 60% of its total population of about 8.5 million live in rural areas. Although 90% of the population are employed or engaged in agriculture or related commerce, tourism is the mainstay of the economy and has contributed much to the 5% annual growth of the state's gross domestic product since its creation. In 2004, nearly 13 million tourists visited its 178 designated tourist places, and 12 parks and sanctuaries. The state government of Uttaranchal (SGOU) has already undertaken several initiatives aimed at increasing the annual growth of tourist arrivals to 12%³ and achieving its development targets⁴ (Appendix 2). However, inadequate and inefficient inter- and intra-state freight and passenger transportation systems are limiting the effectiveness of those initiatives.

3. At present, air services to and from the state are low in frequency and reliability. The four railheads within the state are connected via Uttar Pradesh to the national rail network, but they are not connected by road or rail within the state to offer intermodal or multimodal freight and passenger services in Uttaranchal. Road transport is the predominant mode, with 80% share of the passenger and freight traffic market the number of vehicles in the state has been growing at an average of about 15% every year since 2000. Yet, nearly 6,000 villages comprised of about 20,000 hamlets lack an all-weather connection to a main thoroughfare.

4. The Public Works Department (PWD) of SGOU manages the primary road network comprising 1,327 kilometers (km) of national highways, 418 km of state highways, and various types of district and village roads totaling 17,791 km.⁵ It is responsible for planning, designing, constructing, and maintaining the network elements classified as state, district, and village roads. With the exception of routine maintenance, road works are outsourced on a competitive basis. However, only about 7% of the roads in the state are built to two-lane standards, and 50% are paved. About 1/3 of the higher class paved roads are in poor condition, and over 70% of the roads for light vehicles need to be repaired or rehabilitated.

¹ ADB 2004. *Country Strategy and Program Update (2005–2007): India*. Manila.

² The TA first appeared in *ADB Business Opportunities* (Internet edition) on 1 March 2005.

³ Average annual growth between 2001 and 2003 was approximately 8%.

⁴ Double per capita income in the next 10 years, reduce population below the poverty line by half, arrest migration of the working group by providing employment opportunities, and provide electricity and drinking water to all.

⁵ Additionally, there are 14,634 km administered by local authorities, and state and central agencies, including 1,180 km administered by the Border Roads Organization (BRO) and 3,358 km of forests roads.

5. Although PWD's annual budget, allocated entirely from the state budget, was Rs1.7 billion (about \$40 million) in 2003–2004 and has been growing at an annual rate of over 10% since 2000, expenditure on maintenance was approximately Rs380 million (\$9 million)⁶ while Rs1.3 billion (\$30 million) was spent on capital improvements. Despite the 10,000+ workforce, less than half the planned maintenance activities for that period were completed due to lack of funds and low output levels associated with labor-intensive methods.

6. The long-term goal of SGOU is to connect every village, town, and city to local economic centers, social services, and major cities in the state, and to one another through a network of all-weather roads and pedestrian links. To meet that goal, PWD is currently preparing a state road development master plan, covering about 3,000 km of state and other district roads as well as 13,000 km of village and lower class roads. The master plan is expected to outline road improvements, and their economic, social, and environmental viabilities as well as the resource requirements in the next 10 years. SGOU also wants PWD to increase road asset performance and agency productivity by (i) adopting advanced construction methods and material more suited to the local terrain and climatic conditions and (ii) improving contact administration and accounting methods. At present, PWD's capacity is constrained externally by administrative and financial rules, and internally by archaic operating procedures. Additionally, PWD staff are insufficiently trained to utilize state-of-the art techniques, particularly of resource allocation and contract administration.

7. To mobilize additional public and private resources needed to implement the master plan, SGOU has set up a dedicated infrastructure development fund and a Board to guide the investment. It has also been increasing the annual state budget allocation to PWD since 2000. Moreover, following the success of developing the central bus terminal in Dehradun as a public-private partnership, PWD has commissioned a study to examine the feasibility of developing about 300 km of selected state road corridors with the participation of the private sector in construction, maintenance, and management. Though limited in scale, a few examples of the "user-pays" principle applied to bridges along state and district roads already exist in Uttaranchal.

8. The loan project to be prepared under the TA is in accordance with ADB's recent state roads development initiatives and strategy aimed at strengthening rural-urban connections and linking poor rural producers to markets in towns, cities, and ports; and increasing the capacity of state agencies to better manage roads. It will be a sector loan, designed to increase the quality and quantity of the state's road assets, and Uttaranchal PWD's capacity to better manage them. To avoid possible pitfalls, lessons learned from recent ADB- and World Bank-financed road development projects will be considered when designing and staging organizational and process revisions. In particular, ADB's and the World Bank's past support for India's road sector development targeted at developing institutions' capacities will be closely studied to understand the critical issues.

⁶ This amount includes Rs2.2 million for repair of damage due to landslides and Rs4.1 million for maintenance of chronic slip zones.

III. THE TECHNICAL ASSISTANCE

A. Impact and Outcome

9. Uttaranchal's PWD is currently preparing a 10-year road master plan (a road network development proposal) and financing plan outlining short-, medium-, and long-term development projects and the corresponding resource requirements. It is also preparing a sample (core set) of the short-term development projects to be undertaken with possible financing from ADB. The purpose of the TA is to help Uttaranchal PWD (i) review and finalize the master plan and the sample projects, (ii) review and optimize the financing plan, and (iii) prepare a plan to enhance PWD's capacity. The TA will have three principal outputs: (i) a road master plan outlining the development stages for key state, district, and village roads that would provide the personal mobility and market accessibility needed to achieve the state's development goals; (ii) a financing plan outlining the resource requirements and alternative financing arrangements for implementing the road master plan; (iii) preliminary designs of the sample road projects, which are economically, socially, environmentally, and technically feasible and meet all relevant safeguards; and (iv) a plan to develop the capacity of Uttaranchal PWD to increase and sustain the performance of road assets in the long term.

B. Methodology and Key Activities

10. In the case of the master plan, the consultants will review and, if necessary, revise and finalize the priority links, improvement options, implementation schedule (development stages), and the preliminary designs of the first-stage (stage 1) projects, which will be the critical network links identified for improvement with possible financing from ADB. In the case of the investment plan, the consultants will review, revise, and/or modify and finalize the financing needs and the most appropriate financing arrangements to realize the master plan.

11. In finalizing the master plan, the consultants will review the prioritization criteria and methodology to ensure that stage 1 projects support the economic and population growth trends and the state's development plans, and that the master plan will increase the overall efficiency of inter- and intra-state freight and passenger transport. In particular, the TA consultants will ensure that stage 1 will lead to the desired level of connectivity in the short term (2–4 years) by making appropriate revisions and amendments where necessary to the PWD's master plan. The sample of stage 1 investment projects will be reviewed and revised, if necessary, in accordance with social, environmental, and economic standards set out in the relevant reference documents published by ADB as well as ADB's transport sector strategy for India and the state's development targets. The financial sustainability of stage 1 projects will be assessed in relation to the forecast maintenance and operating costs and the anticipated levels of funding. The consultants will carefully review each sample project to ensure compliance with ADB's policy on involuntary resettlement and relevant policies on the minorities or indigenous persons. The TA consultants will review the terms of reference for supervision of construction to ensure that all safeguards are met during implementation.

12. Activities under the capacity development component will focus on the regulations and practices of Uttaranchal PWD that affect road asset performance. The consultants will interview key stakeholders, including PWD staff in and out of state, and review the findings of previous studies by the Government of India, ADB, and funding agencies to determine opportunities for and threats to increased road sector productivity. Based on the information compiled, the TA consultants will prepare alternative productivity improvement strategies under different human and capital resources, economic growth, and other relevant scenarios, and perform detailed

benefit-cost analyses to arrive at an optimal strategy (a time-bound capacity development and financing plan). The strategy will comprise administrative, financial, and legislative revisions as well as staff training needed to reach national and international road sector productivity targets. Additionally, the consultants will prepare terms of reference for supervising the implementation of the strategy.

13. For the chosen strategy, the consultants will provide short training courses for PWD staff as an intermediate capacity enhancement measure. The training will be in, but will not be limited to, contract administration, project management, information technology, road construction and maintenance (especially in mountainous terrain), or any other area considered important by the majority of the stakeholders. If necessary, training will also be provided in project preparation, using the sample projects in stage 1 of the master plan as case studies. The training program will be tailor-made to suit local needs, include hands-on exercises, and be packaged and sequenced to permit staff from all parts of the state to participate. The consultants will also develop a scheme for evaluating training effectiveness and continuing the training for a period of up to 5 years after completion of the TA.

C. Cost and Financing

14. The total cost of the TA is estimated at about \$463,000 equivalent including a foreign exchange component of \$204,000 and a local cost component of \$259,000 equivalent. ADB will provide up to \$368,000 on a grant basis from its technical assistance funding program to cover all foreign exchange costs and \$164,000 equivalent of local currency costs. SGOU will provide \$95,000 equivalent in local currency to finance office space, data collection, and counterpart staff. Details of the cost estimates and financing plan are in Appendix 3. The Government has been informed that approval of the TA does not commit ADB to finance any ensuing project.

D. Implementation Arrangements

15. Uttaranchal PWD will serve as the Executing Agency for the TA. PWD will appoint a project director who will be responsible for administering the TA, which includes supervising the work of the consultants, liaising between the consultant team and other concerned agencies, coordinating with ADB, and reporting. The project director will be assisted by full-time staff nominated by PWD that will serve as counterparts of the consultants in the following areas: (i) road design and pavement management, (ii) social and poverty assessment, (iii) environmental assessment, (iv) accounting and auditing, and (v) procurement and contract administration. To facilitate technology transfer, counterpart staff, sourced primarily from PWD and relevant government agencies, will work alongside the TA consultants.

16. To facilitate timely implementation and successful completion of the TA, SGOU has agreed to provide the following: (i) the long-term network development plan (a 10-year road master plan) based on a detailed review of the condition and function of the entire network comprising state and other categories of roads under the jurisdiction of Uttaranchal PWD. Stage 1 of the master plan will comprise new links or improvements to existing links needed to support expected economic and population growth patterns and the state's development plans; (ii) an investment plan outlining the financing needs and the most appropriate financing arrangements to realize the development plan; (iii) preliminary designs for the set of stage 1 projects that comply with all ADB and national social, environmental, and economic standards, including accompanying documentation such as resettlement plans, environmental reports, etc., if necessary; (iv) reports and other material collected and used in the detailed project study performed by PWD's consultants; (v) assistance to the international consultants with securing

visas, customs clearances, and other permits to enable them to perform the tasks specified in the terms of reference; and (vi) office space with all utilities (water, power, heating, etc.) in Dehradun with appropriate furniture (desks, chairs, couches, cabinets, shelves), including access (telephone lines) to international telecommunication, Internet/data. The consultants will pay the cost of telecommunication and Internet/data services.

17. The TA will be implemented as two concurrent components over a period of 5 months commencing in September 2005. PWD will form a project steering committee (PSC), which will be chaired by the secretary in charge of Uttaranchal PWD or his representative and will include representatives from relevant agencies such as Finance Department, Law Department, Transport Department, chamber of commerce, road transport providers, and nongovernment organizations representing the interest of project area residents, etc. PSC members will supervise and monitor the technical outputs of the work and will meet at least twice during implementation.

18. The TA will require 23 person-months of consulting services (8 international and 15 domestic inputs). The internationally recruited consultants will include (i) an institutional reform specialist and (ii) a transport planner/economist. The domestic consultants will include (i) a highway engineer, (ii) an environmental/resettlement specialist, and (iii) a social development and poverty specialist with experience in assessing impacts on indigenous peoples and ethnic minorities. An outline of the terms of reference for the consultants is given in Appendix 4. The consultants will be engaged by ADB on an individual basis according to ADB's *Guidelines on the Use of Consultants*, and other arrangements acceptable to ADB for engaging domestic consultants.

IV. THE PRESIDENT'S DECISION

19. The President, acting under the authority delegated by the Board, has approved the provision of technical assistance not exceeding the equivalent of \$368,000 on a grant basis to the Government of India for preparing the Uttaranchal State Roads 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 (for the medium-term program) Sustainable economic growth</p> <p>Outcome (for the investment project) Increased statewide mobility and accessibility</p>	<p>Change in contribution of tourism to state GDP</p> <p>Change in contribution of agriculture to state GDP</p> <p>Hamlets without all-weather access to a thoroughfare connected to the state road network reduced by 30% to 4,200</p> <p>Average travel times between key O-D pairs reduced by 30%</p> <p>Percentage change in persons living below the poverty line in the project area</p> <p>Increase in annual tourist arrivals from existing 8% to 12% per annum 1 year after project completion</p> <p>Increase in share of network roads in fair or better condition at 5% per year after project completion</p>	<p>Surveys and analyses conducted by state agencies and data submitted to ADB</p> <p>Baseline, periodic, and postimplementation survey data collected by PWD and reported to ADB</p>	<p>Assumptions</p> <ul style="list-style-type: none"> • Passenger and freight transport services are improved. • The state plans for tourism industry development are implemented. • Allocation of funds between capital improvements and maintenance is optimized according to the road development master plan. <p>Risk</p> <ul style="list-style-type: none"> • External factors limit tourist arrivals.
<p>Outputs</p> <p>1. Capacity development plan for PWD</p> <p>2. Trained PWD staff</p> <p>3. Road network</p>	<p>Acceptance by SGOU of the restructuring/re-engineering strategy and time schedule</p> <p>Successful completion of relevant training modules by at least 25 technical employees</p> <p>Acceptance of plan and implementation</p>	<p>Review missions and consultations with SGOU</p>	<p>Assumptions</p> <ul style="list-style-type: none"> • PWD's prefeasibility study is completed prior to start of the TA. • PWD nominates and releases staff to undergo training.

Design Summary	Performance Targets/Indicators	Data Sources/Reporting Mechanisms	Assumptions and Risks
<p>development and financing master plan</p> <p>4. Detailed investment plan for ADB Project</p> <p>Activities with Milestones</p> <p>1. Review of PWD studies and consultations</p> <p>2. Stakeholder workshops</p> <p>3. Training</p> <p>4. Preparation and submission of reports</p>	<p>schedule by SGOU</p> <p>Technically, economically, and socially viable set of subprojects</p> <p>Inception report inclusive of work plan and manning schedule within 4 weeks of start of TA</p> <p>Identification of changes needed in standard operating procedures</p> <p>Trainees' evaluation forms</p> <p>Draft final report within 3 months</p> <p>Final report within 2 weeks after receiving ADB and PWD comments</p>	<p>PMU monitoring according to implementation schedule and work plan prepared by consultants</p> <p>Review missions and meetings of steering committee</p>	<p>Assumption</p> <ul style="list-style-type: none"> PWD completes preconstruction activities on time. <p>Risk</p> <ul style="list-style-type: none"> Subprojects are found infeasible during detailed design stage. <p>Inputs</p> <ul style="list-style-type: none"> ADB—\$208,000 Government—\$55,000 <p>Assumption</p> <ul style="list-style-type: none"> Timely completion of master plan and investment plan by PWD consultants

ADB = Asian Development Bank, GDP = gross domestic product, O-D = origin-destination, PMU = project implementation unit, PWD = Public Works Department, SGOU = state government of Uttaranchal, TA = technical assistance.

INITIAL POVERTY AND SOCIAL ANALYSIS (IPSA)

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		
Contribution of the sector or subsector to reduce poverty in India: Road network development provides direct benefits to road users and encourages economic development by allowing easier mobility and access to markets and suppliers. It will reduce isolation—, a common cause of poverty in the country— and transport costs; allow easier access to welfare services, sources of employment, health care, education, banking and credit facilities; and provide opportunities for income generation along the roadside.			
<table style="width: 100%; border: none;"> <tr> <td style="width: 60%;">B. Poverty Analysis</td> <td style="width: 40%; text-align: right;">Targeting Classification: General intervention</td> </tr> </table>		B. Poverty Analysis	Targeting Classification: General intervention
B. Poverty Analysis	Targeting Classification: General intervention		
What type of poverty analysis is needed? A poverty and social analysis will be carried out to determine the socio-economic profile of the population in the project area, identify expected benefits and constraints, and ascertain the ability of the poor and vulnerable groups to benefit from the project.			
C. Participation Process			
Is there a stakeholder analysis? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No The project design will be developed through primary and secondary stakeholder consultations. Is there a participation strategy? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No The TA will include the design of a participation strategy to apply during preparation, planning, and implementation stages.			
D. Gender Development			
Strategy to maximize impacts on women: The project design will include specific measures so that women's groups can actively participate in developing the project and to ensure that their needs and differential gender requirements are addressed and are not disadvantaged by the project.			
Has an output been prepared? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			

E. Social Safeguards and other Social Risks			
Item	Significant/ Not Significant/ None	Strategy to Address Issues	Plan Required
Resettlement	<input type="checkbox"/> Significant <input checked="" type="checkbox"/> Not significant <input type="checkbox"/> None	Most of the improvements will be carried out on existing government land; any required land acquisition may be minimal	<input type="checkbox"/> Full <input checked="" type="checkbox"/> Short <input type="checkbox"/> None
Affordability	<input type="checkbox"/> Significant <input type="checkbox"/> Not significant <input checked="" type="checkbox"/> None		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Labor	<input type="checkbox"/> Significant <input checked="" type="checkbox"/> Not significant <input type="checkbox"/> None	Additional employment opportunities will be created during construction of the project. Employment opportunities within the project will be available to all on the basis of professional competence, irrespective of gender and ethnic or religious group.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Indigenous Peoples	<input type="checkbox"/> Significant <input type="checkbox"/> Not significant <input checked="" type="checkbox"/> None	Although no adverse impact on indigenous people is expected, the TA will further verify if there are any issues and, if required, will prepare an IPDP.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Other Risks and/or Vulnerabilities	<input type="checkbox"/> Significant <input checked="" type="checkbox"/> Not significant <input type="checkbox"/> None	The TA will develop mechanisms to address human immunodeficiency virus/acquired immune deficiency syndrome transmission risks and other social issues identified during the social and poverty assessment.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

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 Consultant	174.0	0.0	174.0
ii. Domestic Consultant	0.0	120.0	120.0
b. International and Local Travel	15.0	5.0	20.0
c. Reports and Communications	0.0	2.0	2.0
2. Trainings and Seminars			
a. Facilitators	0.0	2.0	2.0
b. Training Program	0.0	5.0	5.0
3. Surveys	0.0	10.0	10.0
4. Miscellaneous Administration and Support Costs	0.0	5.0	5.0
5. Contingencies	15.0	15.0	30.0
Subtotal (A)	204.0	164.0	368.0
B. Government Financing			
1. Utilities, Office Space, and Furniture	0.0	15.0	15.0
2. Counterpart Staff Salaries	0.0	20.0	20.0
3. Data	0.0	60.0	60.0
Subtotal (B)	0.0	95.0	95.0
Total	204.0	259.0	463.0

^a Financed by the Asian Development Bank's technical assistance funding program.
Source: Asian Development Bank estimates.

OUTLINE TERMS OF REFERENCE FOR CONSULTANTS

A. Scope of Services

1. Uttaranchal's Public Works Department (PWD) is currently preparing a staged road development master plan and a financing plan for the development program. It is also preparing the preliminary designs of a selection of projects from the first stage (stage 1) of the master plan for possible financing by the Asian Development Bank (ADB). The consultants engaged under this TA would help PWD perform the following tasks: (i) review and finalize the road development master plan; (ii) review and finalize the financing plan, including the program expected to be financed by ADB; (iii) review and finalize the sample projects prepared by PWD to ensure technical, environmental, socioeconomic feasibility and compliance with relevant safeguards; (iv) assess the strengths and weaknesses of PWD in managing the road assets; (v) prepare a plan for developing its management capacity and increasing productivity; and (vi) provide intermediate training to PWD staff.

B. Terms of Reference

2. The review of the master plan for road network development will require consultants to undertake these specific tasks.

1. **Technical Evaluation** (one international transportation planner and one domestic highway engineer, 2 person-months each)

3. The consultant's will do the following tasks:

- (i) Review PWD's assessment of prevailing capacities, levels of service, and accessibility to adjacent villages of the entire network of roads in the state and the criteria used to establish the investment priorities.
- (ii) Review and revise, if necessary, the stages (including prioritized links) of the master plan to achieve the target levels of mobility and accessibility in Uttaranchal under different growth and development scenarios, and to ensure that stage 1 of the master plan likely to be financed by ADB contains the optimal set of improvements needed to meet the short-term goals.
- (iii) Review the technical, environmental, and social-economic feasibility of the sample projects of stage 1 prepared by PWD for possible financing by ADB.
- (iv) Discuss the master plan with key stakeholders such as the Ministry of Shipping, Road Transport and Highways, Ministry of Rural Development, National Highway Authority of India, Border Roads Organization, chambers of commerce, etc., to establish concurrence.
- (v) Finalize the staged master plan for road network development over a 10-year time horizon, with stage 1 to be implemented in the next 2-4 years.

2. Environmental Examination (one domestic environmental/resettlement specialist, 3 person-months)

4. The consultant's will do the following tasks:

- (i) For each sample project identified in stage 1 of the master plan, review the environmental impact assessment (EIA) report or initial environmental examination (IEE) report, the summary IEE report, and the comments from ADB, PWD, and the various national and local government agencies, and stakeholders, particularly affected people and the local community, to ensure compliance with ADB's environment policy (2002), *Environmental Assessment Guidelines* (2003), and the government's environmental assessment guidelines. Also ensure that environmental and natural resource management concerns are considered and an environmental management and monitoring plan is available for each sample project.
- (ii) If an IEE shows that an EIA is needed for any of the sample projects, ensure that PWD has prepared an EIA including the environmental management plan. If necessary, help PWD finalize the reports in accordance with ADB requirements and the loan processing schedule.
- (iii) Assess the capacity of PWD in addressing environmental concerns related to activities of the proposed master plan and, if necessary, provide appropriate training. Review contractor specifications for environmental management and monitoring, and prepare the terms of reference and budget for independent environmental monitoring and evaluation of the sample projects.
- (iv) Review each sample project to ensure compliance with ADB's policy on involuntary resettlement and other relevant policies, and that short resettlement plans (SRPs) or full resettlement plans (RPs) are prepared accordingly.

3. Poverty and Social Analysis (PSA) (one domestic social development specialist, 4 person-months)

5. The consultant's will do the following tasks:

- (i) For each sample project, review the socioeconomic and poverty profiles of the areas to be served, profiles of transport services and costs, and accessibility and affordability. This information will also serve as a baseline for performance monitoring.
- (ii) Review the PSA and summary poverty reduction and social strategy (SPRSS) to ensure compliance with ADB's *Handbook on Poverty and Social Analysis* (draft) and *Handbook for Incorporation of Social Dimensions in Projects* as well as the recommendations for enhancing benefits and minimizing adverse impacts, particularly for the poor, and the cost of such measures and the means for implementing for each sub-project.

- (iii) Review resettlement effects in reference to the resettlement screening checklist in the *Handbook on Poverty and Social Analysis*) and the screenings conducted on the impacts on indigenous/ethnic minority people (refer to ADB's policy on indigenous peoples). If significant impacts are noted, ensure that a resettlement plan (short or full) and/or an indigenous peoples / ethnic minority development plan are prepared for each subproject.
- (iv) Review other social issues including gender and vulnerable groups, and recommend measures to address impacts and promote development opportunities during construction, operation, and maintenance of the road.
- (v) Help PWD establish consultation and participatory processes that will continue throughout project design, construction, and operation. The needs and demands of stakeholders should be identified and considered for incorporation into the project or as parallel initiatives. Prepare a public participation and consultation report, which should be updated by PWD during and after implementation as well as performance monitoring and evaluation systems, including a reporting format and indicators.
- (vi) Review the government's policy, strategy and programs for poverty reduction and regional economic development as it pertains to the project areas to determine how the RIP will complement the Government's development programs; and identify development initiatives that could complement the road project and possible sources of funding for these initiatives.

4. Economic, Financial, and Distribution Analysis (one international transportation planner, 2 person-months)

6. The consultant's will do the following tasks:

- (i) Review and revise, if necessary, traffic forecasts, cost estimates, benefit estimates underlying the economic internal rate of return (EIRR) and net present value (NPV) estimates for each subproject. Ensure that computations of EIRR and NPV are made according to ADB's *Guidelines for Economic Analysis of Projects*, the distribution of benefits of each subproject is estimated in accordance with ADB's *Handbook for Integrating Poverty Assessment in the Economic Analysis of Projects*, and the sensitivity of EIRRs and NPVs to possible and likely changes in key variables are tested according to ADB's *Handbook for Integrating Risk Analysis in the Economic Analysis of Projects*.
- (ii) Review the financial sustainability of the subprojects in relation to the forecast maintenance and operating costs and anticipated level of financing according to the *Guidelines for the Financial Governance and Management of Investment Projects Financed by ADB*.
- (iii) Review the financial management practices of PWD in relation to (a) corporate planning and budgetary control, (b) financial and management

accounting, (c) cost accounting, (d) internal control and audit system, and (e) data processing, and suggest financial covenants, if necessary, to monitor financial conditionalities of the project. Recommend improvements to financial management and corporate governance according to ADB's *Policy on Governance: Sound Development Management (1995)*.

7. The review of the investment plan will be undertaken by an international institutional development specialist, an international transportation planner, and a domestic highway engineer each to work for 1 person-month. The specific tasks follow.

- (i) Review and finalize the cost of the network development plan (para. 2) using ADB's COSTAB software, indicating foreign exchange cost (both direct and indirect) and local currency cost, clearly indicating, as separate line items, the amount of local taxes, value-added taxes, and import duties as appropriate, and supervision costs.
- (ii) Review the proposed methods of improving/rehabilitating/reconstructing the network to accommodate the forecast traffic, meet national and international standards, and provide the desired level of mobility and accessibility within the state.
- (iii) Review and finalize the detailed financing plan based on the most cost-effective alternatives, outlining the investment needs and possible financing arrangements using alternative sources (private, state bonds, etc.) likely to be available to the state at each stage of the master plan. The investment plan for stage 1 should assume possible financing by ADB, but the sustainability of that investment must be viewed in relation to the financing available in the short term.
- (iv) Review and finalize the project implementation schedule, taking into consideration all major activities, seasonal change, and major holidays. Additionally, prepare indicative procurement packages.

8. The capacity development plan will require an expertise of an institutional development specialist and a domestic highway engineer each working for 2 person-months; and a domestic highway engineer, an environmental specialist, and a social development specialist, each working for 1 person-month. The specific tasks are as follows.

- (i) Undertake a comprehensive review of the state's road sector in relation to national, international, and regional benchmarks, and identify the major factors external to the agency that constrain PWD's performance. Present the analysis under the heading Sector Analysis in the submitted reports.
- (ii) Review the organizational arrangement of PWD and the entire business process in relation to its vision and mission, from conceptualization to implementation of plans,— including accounting, auditing, tort liability, and outsourcing— policies to determine the performance of the agency as a whole and the operational divisions in relation to typical targets and criteria such as on-time completion of contracts, dispute resolution, quality of construction, relationships with contractors and road users, and governance.

- (iii) Identify strengths and weaknesses in the organizational arrangement and staff that influence agency productivity,— for example, distribution of funds and labor-intensive work practices,— and evaluate alternative means and costs and benefits of addressing the weaknesses.
- (iv) Conduct a workshop to obtain input from key stakeholders on the present business process, productivity, and quality service provided by PWD and the proposed changes to administrative and financial regulations as well as standard operating procedures.
- (v) Prepare a detailed, phased plan for easing external constraints and re-engineering the internal business process to facilitate successful conduct of PWD's mission and realization of the vision. Phase 1 of the plan may be the introduction of performance-based contracting for outsourced work and work orders for force account works or some derivative thereof.
- (vi) Provide short training for staff as an intermediate capacity enhancement measure in areas considered critical for investment project implementation (i.e., procurement, environmental management, social impact assessment, etc.).

C. Implementation Arrangements

9. PWD will be the Executing Agency for the TA. PWD will appoint suitable counterpart staff to the project management unit to be headed by a project director. The project director will be responsible for general supervision and coordination of TA activities, including monitoring of progress, resolving any problems that may arise during implementation, arranging meetings and liaising with other local and central government agencies with regard to data collection, and ensuring that international consultants receive their visa and other authorizations needed to enter and work in India. PWD will form a project steering committee (PSC), which will be chaired by the secretary in charge of PWD or his representative, and will include representatives from relevant agencies. The PSC members will supervise and monitor the technical outputs of the work and will meet at least twice during the implementation period or more often if necessary.

10. ADB will engage individual international consultants and domestic consultants in accordance with its *Guidelines on the Use of Consultants*. The TA will require approximately 8 person-months of international and 15 person-months of domestic consulting services to carry out the study. The internationally recruited consultants will have expertise in (i) management consulting and (ii) transport planning/economics. The domestic consultants will have expertise in (i) highway engineering, (ii) environmental impact assessment, (iii) social and poverty analysis, and (iv) transportation engineering and planning.

D. Reporting Requirement

11. The team leader will be responsible for compiling and preparing the reports. The submission schedule is as follows: (i) inception report, 4 weeks after start of services; (ii) a draft final report (DFR) 15 weeks after commencement, which will include the finalized road development master plan and investment program, and draft IEEs (draft EIAs if necessary), draft SRPs (RPs if necessary), and draft PSA reports for the sample investment projects; and (iii) final report 2 weeks after receiving comments on the DFR from ADB, the Government of India, and PWD. Two hard copies of each report as well as electronic copies in English are required by the following: PWD, Ministry of Finance (DEA), and SGOU. ADB requires five hard

copies as well as an electronic copy of each report in English (except the DFR, of which eight copies are required).