



Major Change in Scope and Amount

Project Number: 36005
Technical Assistance Number: 3995
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India: Preparing the Chhattisgarh State Roads
Sector Development
Proposed Increase in Technical Assistance
Amount and Enhancement of Scope

A. Introduction

1. The technical assistance (TA) for Chhattisgarh State Roads Sector Development, financed by the Government of the United Kingdom (UK) in an amount of \$800,000, was approved by the Asian Development Bank (ADB) on 21 November 2002 to help prepare the Chhattisgarh State Roads Development Sector Project (the Project) for ADB financing. The total TA cost is \$1,000,000, with the government of Chhattisgarh (GOC) financing \$200,000. The TA's main components are (i) project preparation; and (ii) institutional strengthening and policy reform. The TA outputs include (i) a master plan for road sector development (MPRSD), including prioritized investment needs for new roads and upgrading of existing roads in Chhattisgarh; (ii) feasibility studies, engineering, environmental and social impact studies, and bid documents for major upgrading works; and (iii) sector plans and an action plan to strengthen key sector institutions, promote private sector participation, and improve road safety and road maintenance.

2. CPCS Transcom Ltd.¹ and a team of individual consultants were engaged under the TA in 2003 to prepare a report on sector analysis and institutional development for the road sector in Chhattisgarh; to undertake feasibility, engineering, and environmental and social impact studies; and to prepare bid documents for rehabilitation and major upgrading works, and the MPRSD. The consultants prepared sector analyses and action plans and undertook a feasibility study, together with environmental and social impact studies, for a 100-kilometer road stretch. The Project² was approved by ADB to support state road sector reforms and rehabilitation of the state road network in Chhattisgarh. The Project will help GOC improve road sector management, and provide the capacity to ensure the efficiency and sustainability of road investments and development. The objective will be achieved by (i) improving priority state roads between economic growth centers and rural areas; (ii) instituting measures to improve governance and accountability for road sector management; (iii) improving sector capability and building capacity for more efficient resource and asset management; and (iv) increasing private sector participation in road development and maintenance projects. The Project will complement the ADB-financed Rural Roads Sector I Project³ in Chhattisgarh and Madhya Pradesh. Improved rural roads will not fully benefit the rural population unless the state highway and district road network is improved.

3. The Chhattisgarh Infrastructure Development Corporation (CIDC) had been designated the Executing Agency (EA) for the TA. It has been working closely with GOC's Public Works Department (PWD), which is the EA for the Project.

4. After the contract with CPCS Transcom Ltd. was terminated, a team of consultants was engaged under the TA in 2004 to prepare the MPRSD, including prioritization of investment needs for new roads and upgrading of existing roads. Apart from being a valuable planning tool for GOC, the MPRSD will provide the basis for selecting candidate road subprojects for rehabilitation under the Project. The MPRSD will identify the road sections to be improved through public-private partnership. The consultants submitted the draft final report in June 2005; GOC is reviewing it. As a part of the MPRSD, a road database has been created on a

¹ Owing to poor performance, the contract with CPCS Transcom Ltd., Canada, was suspended effective 1 October 2003, and terminated effective 7 May 2004.

² ADB. 2003. *Report and Recommendation of the President to the Board of Directors on a Proposed Loan to India for the Chhattisgarh State Roads Sector Development Project*. Manila (Loan 2050-IND, for \$180 million, approved on 15 December).

³ ADB. 2003. *Report and Recommendation of the President to the Board of Directors on a Proposed Loan to India for the Rural Roads Sector I Project*. Manila (Loan 2018-IND, for \$400 million, approved on 20 November).

geographic information system (GIS) platform that GOC can use for effective management information and decision making. An individual consultant was engaged in June 2005 to help PWD and ADB in the review of project preparation, project appraisal, and the approval of candidate subprojects under the Project, and the procurement of civil works contracts.

B. Background

5. Chhattisgarh was created on 1 November 2000, following the bifurcation of Madhya Pradesh. As had been with PWD, government of Madhya Pradesh, PWD, GOC is reaching the institutional and technical limits of its ability to manage the sector and investments in state roads. This, and the 10-year neglect of investment in road improvement and maintenance before the bifurcation, has caused serious deterioration of most state roads. Riding quality is mostly poor to very poor, undermining the long-term growth potential of the state's economy, increasing transport capacity bottlenecks, and worsening transport services, including for the rural poor and tribal populations.

6. When the state was created, GOC increased the allocated funds to improve roads. Road sector management must be improved to support GOC's initiatives. Better governance and accountability will improve the institutional and policy framework, and provide the capacity to ensure that investments are implemented successfully and their impacts sustained. Road sector investment is expected to (i) help GOC significantly improve the connectivity of Chhattisgarh's road network, thus directly supporting the state's economic growth; and (ii) help Chhattisgarh establish a transparent and conducive environment for more competition and private sector participation. This, in turn, will ensure better infrastructure facilities and lower recurrent costs for road maintenance over the medium and long term, allowing higher capital and expenditure for priority social sectors and poverty reduction.

7. To improve road sector management, GOC has taken up a study on privatization of the state highways under the Public Private Infrastructure Advisory Facility (PPIAF) with World Bank assistance, and the Business Process Reengineering Study for PWD under the United Nations Development Program (UNDP). GOC has appointed a consultant to computerize business processes in PWD. GOC has been requested to ensure that the objectives and scope under these studies complement the Project's institutional reforms.

8. To fund institutional strengthening and capacity building, the Government of India and the state governments generally prefer TA grant funds and have been disinclined to access ADB's market-based ordinary capital resources loans. Consequently, grant funding from the Government of the United Kingdom⁴ for TA has greatly helped the governments strengthen institutions, build capacity, and undertake pro-poor sector reforms that provide connectivity and efficient transport. ADB generally provides TA grants for institutional strengthening and capacity building and had provided a TA grant funded by the Government of the United Kingdom for road

⁴ Since India is not eligible for ADB's concessional lending window, the Asian Development Fund (ADF), ADB is unable to offer funds for capacity-building, social sector, and other poverty-focused projects at competitive rates to the Government of India. However, India has access to concessional International Development Association funds from the World Bank, and from bilateral donors. Access to grant funds from the Government of the United Kingdom has, therefore, been critical in enabling ADB to include and/or reinforce poverty-focused TA and loans in its India portfolio.

sector reforms in conjunction with a loan for road rehabilitation⁵ in Madhya Pradesh in 2002. Such a grant was not available when a similar loan to Chhattisgarh was approved.

9. The Project provides for the engagement of consultants through loan proceeds. They will be required to continue the policy dialogue carried out during the preparation of the Project and to identify policy areas that need to be improved. The consultants will help GOC build the institutional capacity to strengthen and develop state roads, and strengthen GOC's abilities in sector management.

10. In 2004, before loan signing, GOC requested ADB grant funds for institutional strengthening and capacity building. The request has been endorsed by the Government of India. In response to GOC's continued representations, in April 2005 ADB requested the UK Department for International Development (DFID) for an increase of \$1,600,000 to cover consulting services for institutional strengthening and capacity building in the road sector. DFID has concurred with the ADB request.

11. In accordance with the loan documents, in 2004 PWD started engaging consultants for institutional development and capacity building, and will engage the consultants under the Project from the loan proceeds if the grant funds are not available. The consultants are expected to be engaged by March 2006.

12. ADB and GOC consider the ongoing TA to be immensely useful in analyzing the sector and in preparing plans for sector reforms and the MPRSD. As a more detailed version of the strategic options studies undertaken for various states, the MPRSD will be a model to be shared with other states. Institutional strengthening, capacity building, and sector reform, particularly in the public sector, are the next steps. Using TA grants to fund consultants allows ADB to supervise and monitor their outputs and services. Consensus on reform can then be built more effectively, within PWD and other state agencies, particularly the Finance Department. Grants for such programs have ensured sustainable sector reforms.

C. Proposed Increase in TA Amount and Enhanced Scope

1. Objective and Scope

13. The enhanced TA aims to fund the consulting services for institutional strengthening and capacity building in the road sector, which is now being funded by the loan proceeds.

14. The consulting services will help continue the policy dialogue with GOC in institutional reform, help PWD implement the reform under the Project, and establish highly effective road sector management. The TA consultants will be required to continue the policy dialogue carried out during the preparation of the Project and help GOC reform the road sector. Enhancing the TA will help GOC build the institutional capacity to strengthen and develop state roads, and strengthen its abilities in sector policy formulation, transport planning, project financing, investment management, and social and environmental monitoring by introducing internationally recognized principles of engineering; technical, financial, and economic analysis; and social and environmental impact assessment and management.

⁵ ADB. 2002. *Report and Recommendation of the President to the Board of Directors on a Proposed Loan to India for the Madhya Pradesh State Roads Sector Development Program*. Manila (Loan 1958-IND, for \$30 million and 1959-IND, for \$150 million).

15. The goal of the institutional component is to strengthen Chhattisgarh state road management by establishing an agency for road development (ARD) within PWD, introduce and implement effective and efficient road management processes, improve the skills of PWD employees, and establish a sustainable mechanism to ensure adequate funding for road maintenance. Achieving this goal will significantly increase GOC's capacity to achieve other social and economic development goals.

16. The ARD will be fully operational and responsible for managing all state highways and selected major district roads in Chhattisgarh. It will be transformed into a dedicated road authority (DRA) by the end of the reform. The institutional component will be carried out in parallel with other road project components covering preparation and construction of road improvements by PWD.

17. The services will (i) review the diagnosed deficiencies and bottlenecks in Chhattisgarh's road sector development planning and management, and road maintenance planning and financing; and (ii) review the need for accountability and sustainable sector development; (iii) help PWD implement the policy action plan for institutional reform under the Project; (iv) help PWD establish the social and environmental monitoring unit; and (v) provide training programs, in the country and abroad, to disseminate findings and recommendations on further reforms and institutional improvements.

18. The key components of the policy action plan for institutional reform under the Project require GOC to (i) implement its road policy and improve coordination among its road sector management agencies; (ii) establish the ARD and transform it into a DRA by the end of the reform; (iii) introduce effective road monitoring, planning, and programming procedures in the ARD; (iv) introduce procurement procedures for international competitive bidding in the ARD; (v) improve quality management of construction and maintenance; (vi) increase the ARD's capacity and efficiency through outsourcing; (vii) establish environmental assessment, social analysis, and resettlement planning capabilities in the ARD; (viii) establish computerized project monitoring and financial accounting systems in the ARD; (ix) implement a human resource development program to increase the ARD's technical capacity; (x) provide the ARD with equipment for effective road management; (xi) implement a road safety program; (xii) ensure adequate funding of road maintenance; and (xiii) improve road transport services. The consultants will help GOC implement the policy action plan.

19. Training programs abroad will be designed and organized to expose senior government officials and key management staff of PWD to good governance in road sector management, alternative techniques for financial and economic analysis, resource mobilization, commercial operation and privatization of road operations, diversification of road maintenance financing, social impact assessment, and environmental management. The scope will cover the entire reform process, from the setting up of the ARD during the transition period of PWD's reengineering, to the transformation of the ARD into a DRA. The terms of reference for the consulting services are in Appendix 1.

2. Costs and Implementation Arrangements

20. The proposed enhancement will require about 33 person-months of international and about 119 person-months of domestic consultants with expertise in governance and sector policy, transport economics, road engineering, road safety, procurement, financial analysis, project financing, financial accounting and management, and social and environmental management. The proposed enhancement will provide training in these areas and the

equipment for TA implementation. The total cost of the proposed enhancement is \$2,000,000 equivalent, comprising \$844,994 in foreign exchange costs and \$1,155,006 equivalent in local currency costs. An amount of \$1,600,000, comprising entire foreign exchange cost of \$844,994 and \$755,006 equivalent of local currency costs will be financed by the proposed increase in the TA grant by the Government of the United Kingdom. GOC will continue to provide counterpart services and facilities, including counterpart staff, office accommodation, transport, and administrative resources. GOC's contribution will increase by \$400,000 equivalent in local currency costs. The total TA cost will be increased to \$3,000,000. The revised cost estimate for the TA is in Appendix 2. Consulting services will be provided for 36 months, beginning in March 2006.

21. As the consulting services for institutional strengthening and capacity building are being funded through loan proceeds, PWD started to engage consultants in 2004 using ADB's quality- and cost-based selection method in accordance with ADB's *Guidelines for the Use of Consultants* and other arrangements satisfactory to ADB for the engagement of domestic consultants. The report on the evaluation of technical proposals submitted by PWD for ADB approval was reviewed by the Consultants Selection Committee (CSC) in July 2005. The CSC was informed that ADB approval was being requested to fund the consulting services under a TA grant instead. The CSC suggested that the request for approval of the increase in TA amount and enhanced scope should also include a request to allow the EA to continue the selection process. This request is necessary as ADB's *Guidelines on the Use of Consultants* (para. 2.01) states that the consultants will be selected and engaged by ADB for TA activities that are financed by ADB's own resources or by another institution. DFID has concurred with the proposal for the selection of the consultants for the enhanced TA by the EA. The CSC has approved the report on combined evaluation of technical and financial proposals submitted by PWD in October 2005. It is proposed that ADB will negotiate and sign the contract with the consultants and will continue to administer the enhanced TA.

22. The original TA closing date of 31 October 2003 was extended to 30 June 2006. A further extension to 30 April 2009 is proposed for the implementation of the enhanced TA scope through the increase in TA amount. The loan closing date of July 2009 for the Project would allow sufficient time to implement the TA and fulfill the policy action plan for institutional reform.

23. As the PWD is the EA for the Project, PWD is proposed to be the EA for the enhanced TA. This would facilitate expeditious and effective implementation of the Project as well as of the enhanced TA, as institutional strengthening and capacity building have to be done within PWD itself. CIDC, the current EA for the TA, has no further activities under the TA.

24. Consequent to the increase in the TA amount, the Project will have a surplus of \$1,600,000. Under the sector loan modality, the loan surplus could be reallocated and utilized to fund additional road rehabilitation works through a minor change in the project scope.

D. The President's Recommendation

25. The President recommends that the Board approve (i) the increase in the TA amount by \$1,600,000 from the Government of the United Kingdom, and the enhancement of TA scope; (ii) the extension of the TA closing date to 30 April 2009; (iii) the designation of PWD as the EA for the TA; (iv) selection of consultants for the enhanced TA by the EA using procedures allowed under the Project; and (v) continued administration by ADB of the increased TA amount from the Government of the United Kingdom.

TERMS OF REFERENCE FOR CONSULTING SERVICES FOR INSTITUTIONAL STRENGTHENING AND CAPACITY BUILDING FOR THE CHHATTISGARH STATE ROAD SECTOR

A. Objectives

1. The main objective of the consulting services is to further the policy dialogue carried out during the preparation and design of the institutional reform with the government of Chhattisgarh (GOC), and help it implement the Project's policy reforms. The services will help GOC build the institutional capacity for the public works department (PWD) and sustain the reform impacts through the reforms and enable GOC to manage state roads more effectively and efficiently, thus supporting Chhattisgarh's social and economic development, and reducing poverty. The services will help GOC strengthen its ability in transport planning, project costing and financing, commercialization of transport operations, investment management, and social and environmental management by introducing internationally recognized principles of engineering, technical, financial, and economic analysis methodologies.

B. Scope of Services

2. The goal of the institutional component is to strengthen Chhattisgarh state road management by establishing a dedicated state road agency within PWD, introduce and operationalize effective and efficient road management processes, improve the skills of PWD employees, and establish a sustainable mechanism to ensure adequate funding for road maintenance. Achieving this goal will significantly increase GOC's capacity to achieve other social and economic development goals.

3. The services will be carried out over 36 months, with intermittent inputs. Upon completion, a separate agency for road development (ARD) will be fully operational and responsible for managing all state highways and selected major district roads in Chhattisgarh. The ARD will be transformed into a dedicated road authority (DRA) by the end of the reform. The institutional component will be carried out in parallel with other components of the Chhattisgarh road sector development projects, covering preparation and construction of road improvements by PWD. Therefore, the institutional component will also help the ARD and PWD complete these other activities.

4. The services will (i) review (a) the diagnosed deficiencies and bottlenecks in Chhattisgarh's road sector development planning and management, and road maintenance planning and financing; and (b) the need for accountability and sustainable sector development; (ii) help PWD implement the institutional reform under the Project; (iii) help PWD establish the proposed social and environmental monitoring unit; and (iv) provide training programs, in the country and abroad, to disseminate findings and recommendations on further reforms and institutional improvements. Training programs abroad will be designed and organized to expose senior government officials and key PWD management staff members to good governance in road sector management, alternative techniques for financial and economic analysis, resource mobilization, commercial operation and privatization of road operations, diversification of road maintenance financing, social impact assessment, and environmental management. All the tasks listed in the terms of reference below will cover the entire reform process, from the ARD during the transition period of PWD's reengineering, to the transformation of the ARD into DRA. The services will include, but not be limited to, the tasks identified in the following paragraphs.

C. Terms of Reference

1. Implement the GOC Road Policy and Improve Coordination among GOC Road Sector Management Agencies

5. GOC has established a road management committee (RMC) comprising the heads of the public works, finance, transport, police, rural engineering services, and planning departments; the Chhattisgarh Infrastructure Development Corporation; and selected external road stakeholders. The RMC chair is the chief secretary. The consultants shall do the following:

- (i) Help the RMC develop and oversee a program to implement the road policy, as well as implement the institutional component in PWD.
- (ii) Review the road policy, help the RMC develop a program to implement it, review the progress of its implementation, and provide advice intermittently during the assignment.
- (iii) Help the RMC act as the steering committee to implement the institutional component. Report quarterly to the RMC on progress in implementing the institutional component.

2. Establish the ARD and Transform it into a DRA

6. PWD has established an ADB project implementation unit (PIU) comprising the project director and some key positions. The consultants shall do the following:

- (i) Help PWD strengthen the PIU with additional key positions for project management, accounting, planning, procurement, environment, social analysis, and road safety. The PIU will form the nucleus of the ARD management in the PWD headquarters. The PIU staff members will be counterparts to the consultants.
- (ii) Help the ARD establish its headquarter units by transferring employees from other sections of PWD. This should be done in stages to introduce systems and procedures, establish field offices, transfer employees, and take over the operation and maintenance (O&M) of state highways and selected major district roads.
- (iii) Help the PIU prepare a detailed implementation plan for establishing the ARD, covering staffing, facilities, equipment, systems, procedures, training, and taking over of ARD roads.
- (iv) Monitor the implementation of this plan and advise the PWD, RMC, and ADB of any required modifications.
- (v) Help GOC formulate the form of organization, organizational structure, and operating guidelines for the DRA. Help pass the highways acts, prepare the business plan, and frame the DRA rules.

3. Introduce Effective Road Monitoring, Planning, and Programming Procedures in the ARD

7. ADB appointed consultants in July 2004 to prepare the master plan for road sector development (MPRSD) in Chhattisgarh, covering the state highways and the major district roads. The consultants have carried out a road inventory and condition survey, and a traffic survey. The MPRSD will provide a strategic plan for road development, rehabilitation, and

maintenance for 12 years. The draft final report was submitted in June 2005. As a part of the study, a road database has been created on a geographic information system (GIS) platform. The consultants shall do the following:

- (i) Help the ARD maintain and update the road and bridge inventories and condition and traffic databases developed as a part of the MPRSD. Prepare a procedures manual. Train ARD staff members to collect data and maintain the database, and to generate reports for management information and decision making. Improve the road database management system based on PWD's experiences.
- (ii) Help the ARD install Highway Development and Management-4 (HDM-4) software and develop base input data for Chhattisgarh. Use HDM-4 to evaluate maintenance requirements and help the ARD prepare a 3-year program of road rehabilitation and periodic maintenance for state highways and major district roads. Prepare a procedures manual and train ARD staff members to use HDM-4.
- (iii) Help the ARD develop a routine maintenance management system to assess needs, budgeting, and reporting of routine maintenance on state highways. Pilot-test the system in several field offices in conjunction with the introduction of contracting routine maintenance (para. 9). Train ARD staff members and prepare a procedures manual. Help the ARD introduce the system in all ARD field offices.
- (iv) Help the ARD use the database to prepare short- and medium-term road rehabilitation and periodic maintenance programs as well as support other ARD road management activities such as routine maintenance planning and road safety programs.
- (v) Help the ARD review the current maintenance procedures and prepare an updated maintenance manual.

4. Introduce Internationally Recognized Procurement Procedures for Implementation by the ARD

8. The consultants shall do the following:

- (i) Advise the ARD on ADB's *Guideline for Procurement* and other internationally recognized procurement procedures and standard documents for works, goods and consulting services. Help the ARD prepare standard prequalification and bid documents.
- (ii) Assist ARD as needed during procurement of project works and goods.

5. Improve Quality Management of Construction and Maintenance

9. The consultants shall do the following:

- (i) Help the ARD develop a quality management system for construction and maintenance works, including a quality management manual, procedures, and reporting system.
- (ii) Prepare the manual with detailed procedures for inspections, testing, and measurement, and for reports on quality and progress of the works for use by ARD engineers and supervision consultants on all road and bridge construction, repairs, and maintenance activities.

- (iii) Pilot-test the manual on a sample of different types of works. Train ARD staff members to use the manual. Help the ARD operationalize the manual and reporting system.
- (iv) Help the ARD identify, prepare specifications for, and procure testing equipment and facilities for the quality management system.

6. Increase ARD Capacity and Efficiency through Outsourcing

10. The consultants shall do the following:

- (i) Help the PWD outsource periodic maintenance works and routine maintenance of all state highways through various methods. The consultant will help the ARD develop and test several contracting modalities to maintain state roads, including corridor management, performance-based maintenance contracts, and contracts with community-based organizations.
- (ii) Help PWD pilot-test alternative schemes on existing state highways and selected major district roads, and make improvements based on lessons learned.
- (iii) Help the ARD introduce maintenance schemes throughout the sector.
- (iv) Help PWD develop a standard outsourcing system for field investigations, design, construction supervision, and other technical services.
- (v) Help the ARD prepare standard terms of reference and conditions of consulting services contract for feasibility studies, design, and construction supervision, including specifications and conditions of contract for various types of field investigations and materials testing.
- (vi) Help PWD develop jobs for disadvantaged groups in road construction and maintenance, and pilot-test participation of disadvantaged groups as part of maintenance contracting.
- (vii) Help PWD improve its system for maintaining state roads.
- (viii) Help PWD review road maintenance needs and prepare yearly budget proposals for consideration by the cabinet.

7. Establish Environmental Assessment, Social Analysis, and Resettlement Planning Capabilities in the ARD

11. The consultants shall do the following:

- (i) Help the ARD establish an environmental and social management unit, initially comprising an environmental specialist, and strengthen the ARD's capacity in environmental assessment and social analysis and in resettlement planning and management at all stages of the project cycle.
- (ii) The ARD will adopt guidelines and operationalize procedures to carry out environmental assessments and implement effective environmental management action plans (EMAPs) for construction and maintenance works. Help the ARD develop guidelines and procedures and use them to prepare and implement the project roads. Recommend, and help the ARD implement, improvements to technical specifications relating to environmental protection for inclusion in standard bid documents. Train ARD staff members to implement and monitor EMAPs and environmental protection measures and specifications.
- (iii) Help the ARD adopt guidelines and operationalize procedures to incorporate social analysis into all parts of the project cycle. This will enable the ARD to evaluate the impacts of road improvements on the poor, tribal people, scheduled

castes, and other disadvantaged groups, and to build approaches into projects to maximize benefits to these groups.

- (iv) Help the ARD build the capacity to prepare resettlement plans for land acquisition and involuntary resettlement.
- (v) Help the ARD develop guidelines and implementation procedures for social analysis and resettlement planning.
- (vi) Help the ARD apply the above guidelines and procedures during project preparation and implementation.
- (vii) Provide awareness training to the ARD on the purpose and scope of poverty analysis. Recommend, and help ARD develop, measures to increase participation of the poor and disadvantaged groups in road construction and maintenance.
- (viii) Pilot-test various schemes in the road component of the ADB project or as part of contracting road maintenance (para. 9).

8. Establish Computerized Project Monitoring and Financial Accounting Systems in the ARD

12. The consultants shall do the following:

- (i) Help the ARD develop and operationalize a computerized project monitoring and reporting system to provide information on works completed, expenditure against program, and the budget for the Project. Prepare an operations manual and train ADB-PIU staff members to use the system.
- (ii) Help the ARD develop a computerized financial accounting system to prepare budgets, record expenditures, prepare financial reports, and analyze costs. Install the system in the ARD, prepare an operations manual, and train ARD staff members to use the system.
- (iii) Pilot-test the system in one or two field offices and help operationalize the system throughout the ARD.

9. Implement a Human Resource Development Program to Increase the ARD's Technical Capacity

13. The consultants shall do the following:

- (i) Help PWD fill ARD posts with qualified staff members transferred from PWD and other GOC departments, and recruited from the market. The staff plan should include a significant number of women in technical and professional posts.
- (ii) Help the ARD and PWD develop a staffing plan and staff recruitment strategy and procedures.
- (iii) Help the PWD assess training needs for the ARD. Prepare a training plan and training programs, including a list of courses and outline curriculum. Identify alternatives for delivering training (local or national training institutes, on-the-job training, and specialized courses provided by the consultants).
- (iv) Help the ARD prepare a permanent training needs assessment process and training programs.
- (v) Help the ARD implement the first set of courses.

10. Provide the ARD with Equipment for Effective Road Management

14. The consultants shall do the following:

- (i) Help the ARD identify its information technology needs, beginning with computers and software for planning and engineering, and management information systems.
- (ii) Help the ARD identify equipment and facilities required for road monitoring, field investigations, monitoring and management of quality for construction, and O&M. This will include, for example, traffic counters, pavement condition measurement equipment, portable weigh scales, materials-testing facilities, and pick-up trucks equipped for O&M patrolling.
- (iii) Help the ARD prepare specifications and procure and install the equipment. The procurement should include training of ARD staff members by the suppliers.
- (iv) Help the ARD estimate O&M costs of all its equipment and facilities so they may be included in the ARD's administration budget.

11. Implement a Road Safety Program

15. The consultants shall do the following:

- (i) Help the ARD adopt and implement the community road safety program developed under the ADB-financed Rural Road Sector I Project on all applicable state roads.
- (ii) Develop a road safety program with focus on engineering alternatives to improve road safety on all state roads, based on the road safety audits carried out by the design consultants for rehabilitation of about 1,700 kilometers. Carry out additional road safety audits, if required, to develop the road safety program. Develop enabling mechanisms to incorporate road safety engineering measures into all road improvement projects, and enforce these measures. The program should be aimed to progressively remove safety hazards and install safety devices on all state highways.
- (iii) Develop and operationalize a road accident database based on traffic police reports. Help the ARD prepare and implement this program.
- (iv) Help the RMC coordinate with the State Road Safety Council and with representatives of PWD; the transport, police, and education departments; Chhattisgarh Rural Engineering Services (CGRES); and road stakeholders. This will help develop a more comprehensive road safety program incorporating education, enforcement, driver training, vehicle mechanical fitness standards, seatbelt and safety helmet requirements, and other measures, which are required in combination to reduce road accidents and injuries.
- (v) Help the RMC review the road safety situation in Chhattisgarh and prepare an outline road safety action plan for all state roads.
- (vi) Prepare progress reports with recommendations to improve implementation of the road safety action plan during the institutional reform of PWD.

12. Ensure Adequate Funding of Road Maintenance

16. The consultants shall do the following:

- (i) Help PWD assess road maintenance policies and costs, and estimate funding requirements for road maintenance.
- (ii) Help PWD assess alternative funding sources, including fuel taxes and tolls.
- (iii) Help PWD assess alternative funding mechanisms, including a dedicated road maintenance fund.
- (iv) Help GOC and the RMC establish an effective road maintenance funding system.

13. Improve Road Transport Services

17. The consultants shall do the following:

- (i) Help the Transport Department review and modify road transport regulations to encourage competition and minimize barriers to entry for providing passenger and goods transport. This will reduce passenger fares and freight rates and increase the frequency of service, thus ensuring that benefits of road improvements are fully realized and passed on to the poor.
- (ii) Help the Transport Department survey road transport services on a representative cross-section of roads and areas to determine levels of service, fares, and type of goods carried. Consult road transport operators to identify road transport issues. Review road transport regulations and recommend changes to improve transport.
- (iii) Submit a report of findings and recommendations to the Transport Department and RMC. Advise the RMC on implementing the recommendations.

D. Other Project Activities and Requirements for the Consultants in Relation to the Above Tasks

1. Institutional Reform Component

18. The consultants shall do the following:

- (i) Review in detail the PWD reengineering plan, including the transition plan, and reconfirm with GOC and PWD that the implementation arrangements and schedule for the institutional reform of PWD are in accordance with the policy measures and reform actions stated in the reform framework and the time-bound policy action plan under the Project.
- (ii) Review the PWD guidelines for road sector development and planning, including guidelines for preparing investment pipelines, projects for road repairs and improvement, and road maintenance, and identify areas that need further policy and institutional adjustments and improvements.
- (iii) Review the budget allocation methodology and source of financing for road maintenance, including the build-operate-transfer and maintenance-operate-transfer operations and other feasible road user charges, and recommend for GOC's adoption a funding mechanism to secure sufficient financing resources for the long-term road maintenance.
- (iv) Review the PWD guidelines and road maintenance management and PWD district depots, and help the ARD prepare a road maintenance manual with practical strategies and detailed operational procedures for long-term road maintenance.

- (v) Review the guidelines for feasibility studies, and technical design standards, with comparisons with internationally recognized principles and practice, to confirm their applicability to future projects.
- (vi) Review the financial accounting methodology and practice, financial accounting management of PWD, guidelines for internal financial inspection and audit, and recommend areas for improvement, such as development of a financial accounting manual for preparation of project accounts and audit.

2. Institutional Strengthening and Capacity Building

19. Based on the findings and recommendations of the above review and studies and specific needs of the institutional reforms of PWD, the consultants shall do the following:

- (i) Conduct seminars and case studies on the main principles of transport planning and project programming and methodologies for project costing and financing.
- (ii) Prepare guidelines for road financing to encourage private sector participation in road improvement and road maintenance projects, such as commercial borrowing, issuance of bonds, private sector investment, and outsourcing of road maintenance.
- (iii) Prepare guidelines and procedures to commercialize transport operations, including road construction and maintenance, and commercial opportunities for site development along the state highway network.
- (iv) Help PWD design a training program abroad to expose ARD and PWD management staff members to good governance in sector management, alternative techniques for economic and financial analysis, and resource mobilization, especially in road maintenance financing, bridge maintenance, pavement management, maintenance planning, and depot management.

20. The consultants shall design a series of seminars and workshops in Chhattisgarh to disseminate findings and recommendations on reforms and improvements to state road management, and training achievements, especially those from training programs abroad.

21. About 20 person-months of training abroad may be provided for subjects in the areas above. The services will provide equipment to implement institutional reform.

E. Reporting

22. The consultants shall provide ADB with progress reports on the reform program, including achievements and problems, policy recommendations, and guidelines for implementation by PWD and the new DRA, and on the conduct of the training programs. The consultants will prepare specific reports in accordance with the terms of reference. Upon completion of their services, the consultants shall prepare a draft final report covering all tasks required by the terms of reference. A final report shall be prepared 30 days after the tripartite review meeting with GOC, ADB, and the consultants.

23. The consultants, in consultation with GOC, shall prepare a program for training abroad of selected candidates from the ARD and PWD in the areas specified in the above terms of reference. The consultants shall establish contacts with relevant training institutes abroad and prepare comprehensive training proposals, including selection criteria for candidates, training objectives, training subjects, and so on. The proposal shall be supported by adequate cost estimates and shall be forwarded to ADB for approval before training starts.

F. Expected Inputs

24. The composition and the inputs of the proposed experts are as below:

Table A1: Proposed Experts and Inputs

S. No.	EXPERT	International/ Domestic	Duration (person-months)
1.	Team Leader/Institutional Development Expert	International	24
2.	Road Maintenance Specialist	International	9
3.	Institutional Development /Governance Specialist	Domestic	24
4.	Transport Economist	Domestic	9
5.	Private Sector and Commercialization Specialist	Domestic	6
6.	Road Safety Specialist	Domestic	6
7.	Financial Analyst	Domestic	8
8.	Environmental Expert	Domestic	9
9.	Highway Engineer—Design	Domestic	9
10.	Highway Engineer—Construction	Domestic	9
11.	Procurement Expert	Domestic	9
12.	Information Technology Specialist	Domestic	9
13.	Human Resources Specialist	Domestic	6
14.	Resettlement Expert	Domestic	9
15.	Legal Expert	Domestic	6

Source: Request for proposal for the consulting services prepared by PWD.

TA NO. 3995-IND: CHHATTISGARH STATE ROADS SECTOR DEVELOPMENT
 Cost Estimates and Financing Plan
 (in \$)

Item	Current Cost Estimate			Revised Cost Estimate		
	Foreign Currency	Local Currency	Total Cost	Foreign Currency	Local Currency	Total Cost
A. ADB Financing ^a						
1. Consultants-Remuneration, Per Diem, Travel, House Rental	332,028	239,744	571,772	891,000	785,800	1,676,800
2. Equipment	12,311	0	12,311	52,300	0	52,300
3. Studies, Surveys, and Reports	0	160,500	160,500	0	160,500	160,500
4. Workshops, Trainings, and Seminars	167	2,500	2,667	140,200	57,500	197,700
5. Contract Negotiations	6,000	0	6,000	12,000	0	12,000
6. Miscellaneous Administration, Support Services and Communications	0	22,000	22,000	0	131,800	131,800
Subtotal	350,506	424,744	775,250	1,095,500	1,135,600	2,231,100
7. Contingencies	8,200	16,550	24,750	108,200	60,700	168,900
Subtotal (A)	358,706	441,294	800,000	1,203,700	1,196,300	2,400,000
B. Government Financing						
1. Office Accommodation and Transport	0	170,000	170,000	0	510,000	510,000
2. Remuneration and Per Diem of Counterpart Staff	0	20,000	20,000	0	60,000	60,000
3. Others	0	10,000	10,000	0	30,000	30,000
Subtotal (B)	0	200,000	200,000	0	600,000	600,000
Total (A+B)	358,706	641,294	1,000,000	1,203,700	1,796,300	3,000,000

^a Financed by the Government of the United Kingdom.
 Source(s): TA Paper and Project Officer estimates.