

TERMS OF REFERENCE FOR CONSULTANTS

TECHNICAL ASSISTANCE FOR INSTITUTIONAL STRENGTHENING OF THE MAHARASHTRA RURAL ROAD SECTOR FOR SUSTAINABLE DEVELOPMENT

A. Objective

1. The State Government of Maharashtra has requested a loan from the Asian Development Bank (ADB) for the implementation of Maharashtra Rural Connectivity Improvement Project, which will improve around 2,100 kilometers (km) of rural roads in 34 districts within the state. The State of Maharashtra acting through the Rural Development Department (RDD) and Maharashtra Rural Road Development Association (MRRDA) will be the executing agency. A project management unit (PMU) headed by the Project Director established within MRRDA will support project implementation. The secretary cum Chief Executive Officer of MRRDA will be responsible for project coordination and supervision. The main objective of the consulting services is to support MRRDA in improving sector management performance by implementing institutional development initiatives in the fields which need to be supplemented with international expertise. The technical assistance (TA) will focus on:

- (i) Road asset management including road maintenance
- (ii) Climate resilient design and construction
- (iii) Road Safety
- (iv) Web based real time project monitoring system

B. Scope of Services

2. The consultants will undertake the services in close consultation with the Chief Executive Officer, MRRDA who is the Project Director of the Project. They will conduct training and workshops as required. Organizing and conducting study cum training tours to neighboring countries for exposure to concerned engineers and officials regarding practices being followed for asset management and road safety. Sector wise consultations will be conducted to disseminate the concepts of the sector development initiative.

3. For a long-term framework, splitting the functions of road development policy and programming from project implementation is often effective. This will ensure efficient decision making for project implementation and help build up expertise in outsourcing of specialized tasks.

4. The consultant will be expected to undertake the following tasks:

- (i) study existing rural road network, design, construction and maintenance systems;
- (ii) recommend an appropriate institutional structure for managing road asset management including road maintenance, road safety for the overall rural road network and climate resilient design and construction;
- (iii) recommend appropriate management structures for managing each layer of the rural road network for road asset management, road safety and climate resilient design and construction techniques including international best practices;
- (iv) initiate and develop web based real time sub projects progress and quality monitoring system to effectively manage highly scattered subproject implementation;
- (v) provide training to MRRDA staff at various levels to incorporate road asset management, road safety, effects of climate change and web-based real time project monitoring;

- (vi) provide training to MRRDA staff introducing implementation of performance-based maintenance system and prepare necessary manuals and bid documents for implementation of the same
- (vii) organize and conduct study cum training tours to neighboring countries for exposure to concerned engineers and officials regarding practices being followed for asset management and road safety and incorporation of the same in the country specific systems;
- (viii) prepare design and construction manuals for climate resilient design and construction and prepare standard design for different structures to withstand climate change effects;
- (ix) organize and conduct seminars and study tours
- (x) develop knowledge products; and
- (xi) partner with centers of excellence in climate resilience infrastructure in general and road development in particular.

1. Institutional Framework

5. The main task of the consultants is to seek agreement from various levels of rural functionaries involved on how rural roads are to be administered for road asset management, road safety, climate resilient design and construction and web-based project monitoring system. They will be expected to examine good practices being followed in other countries and feasibility of the lessons learned being adapted for effective rural road management.

6. **Implementation Arrangements.** As per the implementation arrangements agreed for the project, there will be 6 divisions headed by a Superintending Engineer to provide close technical support and supervision on (i) planning, preparation, implementation, and quality management of physical works, and (ii) compliance with ADB's safeguard requirements in 34 project districts. Accordingly the consultants will work closely with the PMU headed by Project Director, 6 divisions and 34 project implementation units (PIUs) in 34 districts and address, to develop and train MRRDA staff on (i) road asset management to include maintenance of pavement, laying down priorities for the roads to be maintained and the funds required thereof on annual basis after completion construction or completion of 5 years maintenance period for contract packages pertaining to the project (ii) applying the road safety measured at the time of planning, design, construction and maintenance and in conducting road safety audits, (iii) climate resilient design and construction and, (iv) developing web-based real time project monitoring. One of the key outputs is the development of "re-entry" plans detailing how lessons from the capacity building will be adopted in MRRDA operations. District specific development plans will be prepared and presented to MRRDA management and the State for possible implementation and funding

2. Management Structures

7. The institutional analysis should determine how each part of the rural road network is to be managed. The task is to recommend appropriate organization and management structures for MRRDA for the purpose of road asset management, road safety issues and measures to ensure zero percentage in road accidents attributable to the road as such extra measures mitigate the climate change effects where applicable.

8. The consultants will be expected to undertake the following tasks:
- (i) The consultants will recommend an appropriate organization and management structure for MRRDA to incorporate (a) proposed rural road asset management system and prepare a manual for the same, (b) road safety measures,

- (c) requirements for climate resilient design and construction, and (d) web-based real time project progress monitoring system;
- (ii) The consultants will establish manuals to (a) include road condition survey, (b) inspection reports for maintenance, (c) manuals for performance-based maintenance, (d) annual maintenance audit report, and (e) do's and don'ts for maintenance of pavements especially pertaining to shoulders and drainage. They will introduce internationally proven standards for road safety;
- (iii) The consultants will provide ADB with progress reports on the institutional strengthening action plan, including achievements, problems, and policy recommendations. They will prepare specific reports in accordance with the terms of reference. Upon completion of their services, the consultants will prepare a draft final report covering all tasks and a final report 30 days after the tripartite review meeting with MRRDA, ADB and the consultants; and
- (iv) The consultants, in consultation with MRRDA, will prepare and conduct a training program including organizing a study tour to neighboring countries in the areas specified in their terms of reference, including selection criteria for candidates, training objectives, and cost estimates.

C. Composition of Team and General Qualifications of Key Personnel

1. Team Leader Cum Road Asset Management Specialist (International)

1	Educational Qualification	Graduate in Civil Engineering from a recognized university/institution preferably having post graduate qualification in road asset management
2	Experience	
	(a) Total professional experience	Minimum 20 years of experience
	(b) Experience in Road projects	Minimum 15 years in maintenance of roads including 5 years of experience in road asset management
	(c) Experience in similar capacity	As a team leader coordinating the tasks of other consultants and submitting consolidated reports. Rural roads planning, design, construction and maintenance preferably for externally aided projects such as ADB/WB/JICA/USAID etc.

2. Road Safety Specialist (International)

1	Educational Qualification (minimum)	Graduate in Civil Engineering from a recognized university/institution
2	Experience	
	(a) Total Professional experience	Minimum 10 years of experience in the road sector
	(b) Experience in Highway projects	Minimum 7 years of experience in pavement design/construction and at least 1 year experience in road safety
	(c) Experience in similar capacity	Rural roads planning and designing preferably for externally aided projects such as ADB/WB/JICA/ USAID etc.

3. Climate Resilient Design and Construction Specialist (International)

1	Educational Qualification (minimum)	Graduate in Civil Engineering from a recognized university/institution with post graduate degree in environmental engineering or environmental science
2	Experience	
	(a) Total Professional experience	Minimum 5 years of experience in either assessing, reviewing, and designing climate resilient roads with direct participation on any multilateral or internationally assisted climate resilient project in Asian or tropical country
	(b) Experience in similar capacity	Environmental specialist in at least one road project preferably externally aided projects such as ADB/WB/JICA/USAID etc.

4. Information Technology Specialist (National)

1	Educational Qualification (minimum)	Graduate in Information Technology from a recognized university/institution
2	Experience	
	(a) Total Professional experience	Minimum 10 years of experience in designing software and training of personnel
	(b) Experience in similar capacity	Experience in designing web-based project monitoring software for an organization preferably for externally funded projects such as ADB/WB/JICA/USAID etc.

5. Climate Resilient Design and Construction Engineer (National)

1	Educational Qualification (minimum)	Graduate in Civil Engineering from a recognized university/institution with post graduate degree in structural engineering
2	Experience	
	(a) Total Professional experience	Minimum 5 years of experience in either assessing, reviewing, and designing climate resilient roads with direct participation on any multilateral or internationally assisted climate resilient project in Asian or tropical country
	(b) Experience in similar capacity	Structural Engineer in at least one road project preferably externally aided projects such as ADB/WB/JICA/USAID etc.

6. Road Asset Management Engineer (National)

1	Educational Qualification	Graduate in Civil Engineering from a recognized university/institution preferably having post graduate qualification in road asset management
2	Experience	
	(a) Total professional experience	Minimum 15 years of experience
	(b) Experience in Road projects	Minimum 10 years in maintenance of roads including 5 years' experience in road asset management

	(c) Experience in similar capacity	Rural roads planning, design, construction and maintenance preferably for externally aided projects such as ADB/WB/JICA/USAID etc.
--	------------------------------------	--

7. Road Safety Specialist (National)

1	Educational Qualification	Graduate in Civil Engineering from a recognized university/institution
2	Experience	
	(a) Total professional experience	Minimum 10 years of experience in the road sector
	(b) Experience in Road projects	Minimum 5 years of experience in pavement design/construction and at least 1 year experience in road safety
	(c) Experience in similar capacity	Rural roads planning and designing preferably for externally aided projects such as ADB/WB/JICA/ USAID etc.

D. Staffing in Person Months

No.	Position	Person-Months
1	Team Leader Cum Road asset management Specialist (International)	9.0
2	Road Safety Specialist (International)	4.0
3	Climate Resilient Design and Construction Specialist (International)	4.0
	Total person-months (International)	17.5
4	Road Asset Management Engineer (National)	9.0
5	Road Safety Engineer (National)	4.0
6	Climate Resilient Design and Construction Engineer (National)	4.0
7	Information Technology Specialist (National)	4.0
	Total person-months (National)	21.0