MCA-Nepal
Road Maintenance Project (RMP)

Technical Assistance – Outreach event

Sudhan Shrestha
Project Manager – Road Maintenance & TA

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Background

- **Provide "Road Management Technical Assistance"**
  - → **Department of Roads &**
  - → **Roads Board Nepal (RBN);**
- Draft ToR prepared by MCA-Nepal with the technical support of MCC → shared earlier;
- Document is issued with a **short questionnaire** - to all interested firms;
- By distributing this document → MCA-Nepal expects to **get valuable comments and feedback**
  → regarding the adequacy of the **Terms of Reference**;
- The collected information will be incorporated '**as applicable**' to the Request for Proposal document to be published for clarity, understanding of needs and context.

MCA-Nepal → Project **PARTNER**

MILLENNIUM CHALLENGE ACCOUNT – NEPAL

Terms of reference

Road Management Technical Assistance

Date: August 2019

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Ref No: MCA-Nepal/RMP/QCBS/003

Terms of Reference

Road management Technical Assistance

DRAFT

Questionnaire …

MILLENNIUM CHALLENGE ACCOUNT NEPAL (MCA-NEPAL)

Request for Feedback

Request for Feedback about upcoming "Road Management Technical Assistance" Consultancy Contract under Road Maintenance Project in Nepal

Summary of Expected Scope of Work: Provide Technical Assistance, training and capacity building to Department of Road and Road Board Nepal, as applicable, in the areas of: 1) improved data collection and techniques; 2) preparation of appropriate road maintenance plans driven by economic justification; 3) improved prioritization of periodic maintenance; 4) improved contracting and contracting management, including integration of improved road safety features; and 5) improved project management. The training and capacity-building provided will also entail the transfer of modern road maintenance methods, technologies, and business processes under this Activity.

The prospective Consultants are requested to provide the feedback detailed in the attached Questionnaire. All received feedback will be kept confidential and will be used only for improvement of the Request for Proposal (RFP) to be launched.

Important:

This is not a request for offers/proposal/expression of interest. MCA-Nepal is not hereby requesting the submission of proposals in response to this Request for Feedback notice. This is also not intended to be a shortlisting process. MCA-Nepal is also considering to have discussions one to one with the firms responding to this Request for Feedback.

MILLENNIUM CHALLENGE ACCOUNT NEPAL (MCA-NEPAL)

QUESTIONAIRE

Request for Feedback about upcoming "Road Management Technical Assistance" Consultancy Contract under Road Maintenance Project in Nepal

Please provide your feedback on the following questions.

I. **SCOPE OF WORK**

1. Is the Scope of work doable with the allocated level of effort i.e. personnel positions and envisaged project duration? Please explain.
2. What do you think are the main challenges you would confront while implementing this assignment?
3. Is the professionals proposed in the ToR enough to fulfil the requirements as envisaged. If not please elaborate which additional positions are required and their tasks.
4. Trainings are very diverse and cumbersome to scope and assign a price. What would be your suggestion to address this issue?
5. The ToR requires firms to develop the indicators for monitoring and evaluation. Do you foresee this to be an issue. If yes please explain.
6. Are you confident to take up this contract as a fixed rate contract, i.e. in the manner it is currently formulated? If not what please suggest.
7. **Qualification and Evaluation Criteria**: After reviewing the requirements for the assignment, do you think your company would submit a proposal for this procurement? As a single entity or in a Joint Venture/Subcontracting arrangement? If no, please explain the reasons why not.
8. Please make additional recommendation to improve the ToR.

Overview …

I. Guiding principles
II. Project Implementation Design Framework
III. Technical Assistance – scope of services (ToR)
IV. Pilot project & selected road segments

Notes:

Participants are requested to study this draft ToR,

- *Section 3.0 'Base Period';*
- *Section 4.0 'Option Period I' ;and*
- *Section 5.0 'Deliverables and Documentation Requirements' and*

provide inputs ***to improve the ToR → better understanding of the Firms for effective delivery of the services envisaged – December 6, 2019***

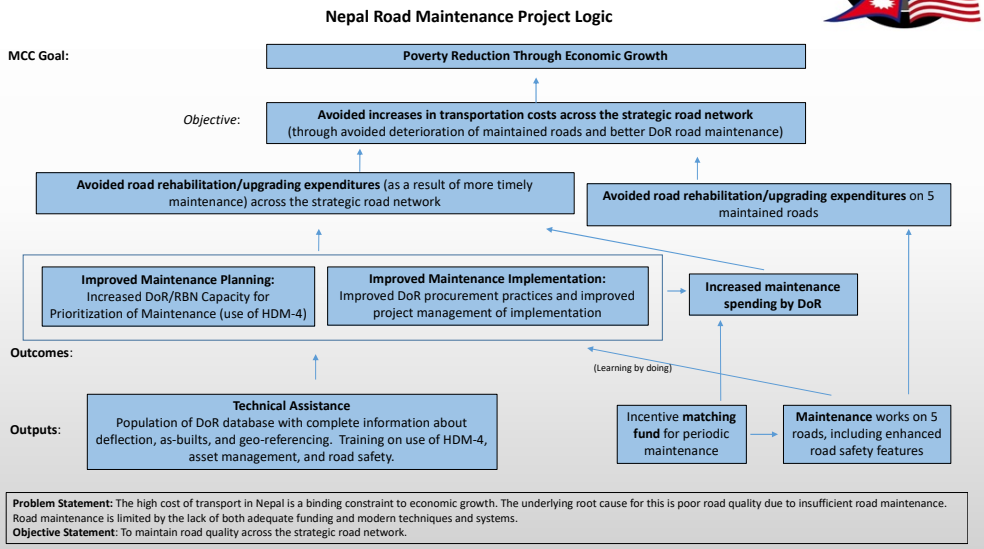
Part I: Guiding principles

Key Documents

The Parties will perform their responsibilities under this Agreement in accordance with the following documents →"***Key Documents***":

1. **the Compact** (US Government Grant Agreement);
2. **the Program Implementation Agreement** – addendum to the Compact;
3. **the MCC Cost Principles** for Government Affiliates Involved in Compact Implementation;
4. **the MCC Program Procurement Guidelines**.

Project Logic



Nepal Road Sector Organizations

Ministry of Physical Infrastructure and Transport (MOPIT)

- **Department of Roads (DoR)**
- **Roads Board Nepal (RBN)**

Private and Educational Sector

- **Construction Contractors**
- **Engineering Firms and Associations**
- **Nepal Cement Manufactures Association**
- **Universities in Nepal (Highway/Transport Engineering)**

Phase I: Pilot Road Recycling and TA

Pilot road project & equipment – procurement status

- **Bhalubang to Lamahi** (East West Highway) - approximately 27 KM
  - RFP for the design is expected launch → Dec 2019,
  - Anticipated design completion → July 2020.
- **Falling Weight Deflectometer** (FWD) & training → delivery in progress.
  - The FWD and training is expected →January 2020.
- **Superpave mix design & Cement stabilization Laboratory equipment** → expected delivery in January 2020
  - Dynamic & Static Testing Fatigue instrument
  - Gyratory Shear Compactor
  - Hamburg Wheel Tracker
  - Direct Shear Rheometer
  - Pressure Aging Vessel
  - … … …

Part II:
Technical Assistance – Terms of Reference

What is MCA-Nepal looking for…

Objective → Project **PARTNER**

1. Firm → bring in Road Maintenance Management & Technology from other **success projects implemented in other countries**;
2. Firm → Bring in **quality committed professionals**

Terms of Reference – Mandatory Criteria

1. The **Consultant must have developed, implemented or collaborated** on the **development of a road management system** at a Department of Transportation/Roads or at the national level over the last seven (7) years;
2. The Consultant must demonstrate involvement in the development or implementation of **road data collection procedures**, in the preparation of road related guidelines and/or in the implementation of innovative maintenance and rehabilitation solutions over the last seven (7) years.

Technical Assistance – Section 3.0 Base Period Tasks

Task I: **Mobilization & Inception (work breakdown structure; QA/AC; reporting formats)**

Task II: **Situational Awareness**

- Pavement and safety management status
- Stakeholder engagement plan
- Equipment and hardware/software needs
- Updated Output and Outcome Indicators

Task III: **Road Safety Awareness Campaign (project road corridors)**

- identify various road safety awareness campaign and strategies → safer use of roads by both vehicle operators and non-motorized users.
- road safety awareness campaign shall raise awareness of vehicle operators and pedestrians.

Technical Assistance – Section 3.0 Base Period Tasks

Task IV: **Pavement distress identification manual**

Task V: **Integration of New Pavement Technologies in Nepal → Public/Private/ Civil society**

Task VI: **Pavement preservation, Rehabilitation Manual and Training**

- Performance-based specifications and recycling incentive mechanisms

Task VII: **Alternative funding sources for pavement preservation and rehabilitation in Nepal**

- Identify additional pavement preservation funding alternatives to fund the road funding gap and road users' willingness to pay.

Task VIII: **Technical Assistance for the Implementation of the Pavement Management System**

- A five (5) year annual pavement preservation and rehabilitation investment prioritization plan for DoR
- baseline pavement asset valuation for the SRN with complete methodology and justification for future use and updating by RBN

Task IX : **Technical Assistance Final Report**

Technical Assistance – Section 3.0 Base Period Tasks

Task IX : Technical Assistance Final Report

The Report shall include the following elements:

1. a completed **HDM-4 calibration file** showing all work performed → supporting justifications for a post compact assessment;
2. the **updated fatigue curves for the pilot recycling project** → next steps and relevant updated procedures for DoR to follow up/updating;
3. a table of the most probable **cause(s) of deterioration on the SRN** and the identified treatment options;
   - an updated graphical representation of the IRI and SDI performance since 2012;
4. an **updated pavement maintenance, rehabilitation, reconstruction and new capital expansion table** and
   - graphic showing all money spent per category by the GoN and Donors, with planned investments indicated/projected.

Technical Assistance – Section 4.0 Option Period 1

Task 10: Technical Assistance for DoR and RBN
→technical assistance as needed for DoR

1. Implementation of the **improved network level data collection methods** → verification of calibration(s) for the IRI surveys, SDI surveys, and deflection surveys;
2. **Updating of the fatigue curves** with recommendations for future work;
3. Provide an **assessment of the pilot road project including fatigue curves and updated HDM-4** assessment;
4. Updating of any **wet season deflection calibration coefficients**;
5. **Review work performed** in field by MCA-Nepal construction contractors;

Technical Assistance – Section 4.0 Option Period 1

6. Review course materials for the **university programs** → provide recommendations as needed;
7. **Updating of the HMIS** with DoR collected data and itinerary diagram data;
8. **Updating of any technical specification** requirements for Full Depth Recycling, cement stabilization and performance based asphalt work;
9. **Updating of the pavement manual** and procedures including HDM-4 calibration to reflect findings;
10. **Updating of any road safety awareness** campaigns and material;
11. Assistance with **updating of procurement procedures and guidelines**;
12. **Provide additional training as needed for DoR** staff on the updated road manual; and,
13. Updated Final Report to reflect all activities and work performed under the Optional Period.

Section 5.0 Deliverables

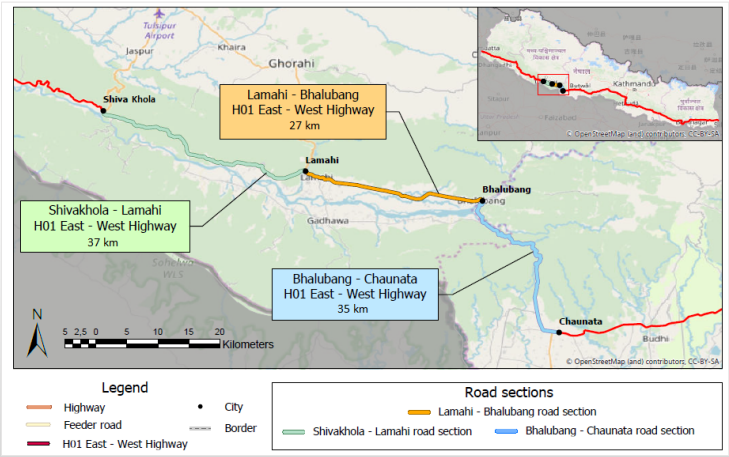
Task ID	Deliverable	Notice to Proceed (NTP) + Weeks	Percentage of Lump Sum Amount
Task 1	Mobilization Report:	3 weeks	3%
Task 1	Inception Report:	8 weeks	4%
Task 2	Situational Awareness Report:	16 weeks	7%
Task 3	Road Safety Awareness Campaign Report:	20 weeks	4%
Task 4	Pavement Distress Identification Manual:	24 weeks	4%
Task 4	Determination of the Cause(s) of Deterioration Report:	28 weeks	4%
Task 4	Initial Calibration of Pavement Deterioration Curves Report:	32 weeks	8%
Task 5	Integration of New Pavement Technologies in Nepal Report:	40 weeks	8%

Section 5.0 Deliverables

Task ID	Deliverable	Notice to Proceed (NTP) + Weeks	Percentage of Lump Sum Amount
Task 6	**Training Course Delivery Report and Video Files for Network Level**	56 weeks	6%
Task 6	**Workshop on willingness to pay and population consultation report**	60 weeks	6%
Task 7	Alternative funding sources for pavement preservation and rehabilitation in Nepal:	68 weeks	6%
Task 8	HMIS Training Manual:	76 weeks	6%
	Five (5) year Annual Pavement Preservation and Rehabilitation Prioritization Plan:	86 weeks	6%
Task 8	Baseline Pavement Asset Evaluation and Simulation Report:	94 weeks	6%
Task 8	Executive Workshop:	100 weeks	5%
Task 9	Final Report	104 weeks	5%

Part IV:
Pilot project & selected road segments

Selected road segments



Options after success of Pilot Project

1. Chaunauta – Bhalubang 35 km
2. Lamahi – Shivkhola (37km)

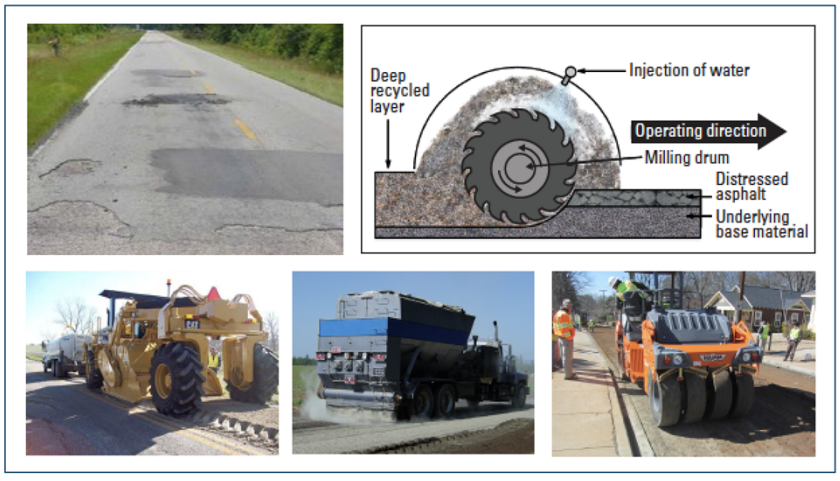
Pilot project:
Bhalubang - Lamahi (27 km)

Preliminary Pavement Design of the LBRS

- **Strategy 1:** A low-cost and environmentally appealing alternative is to pulverize the DBST and existing base course to a depth of about 200 mm, with the addition of cement to reach about 3,000 MPa.
  - **Full-depth reclamation (FDR) rebuilds** worn out pavements by recycling the existing pavement.
  - The old surface layer and base materials are pulverized, mixed with cement *(2-3%)*, and compacted to produce a strong and durable base course.
- **Strategy 2: cover the base course with a polymer modified** and/or fiber-reinforced Asphalt Concrete deploying 4,000 MPa.

Additionally there are some **drainage issues** namely need for more and deeper ditches, culverts and outlets.

Full Depth Reclamation (FDR)



FDR - Recycling train

FDR-C used in pavement rehabilitation offers benefits including:

- **Cost** effective, in-place construction
- **Increased structural capacity**
- **Reflection cracking mitigation**
- Cost effective **corrections to profile/cross** slope…
- Expedited construction and simplified staging with potentially **less disruption to traffic**

Recent works implemented in Kathmandu airport

Part VI:
RMP Technical Assistance – calendar of events …

Schedule

No	Detail	Date	Remarks
1	Kathmandu Outreach event	15 August 2019	Completed
2	Hold one to one interaction for those interested in Kathmandu outreach event	Month - September 2019	Completed
3	**New Delhi Outreach event**	**30 November 2019**	In progress
4	Final date for submission of comments & feedback	6 December 2019	
5	Outreach in Washington DC	December 2019	
6	Compilation of comments & feedback	December end	
7	**Launch RFP**	**January 2020**	
8	Commence Implementation	June 2020	

Queries & Clarification – later…