

## **Request for Expression of Interest (EoI)**

### **Hiring of Consultancy Services for Designing National Seismic Risk Mitigation Project (NSRMP) Phase II under NCRMP Phase II (Credit No. IDA-5693-IN)**

**Reference No. IN-NDMA-144905-CS-QCBS**

**Date: 20/11/2019**

The Government of India has received financing from the World Bank toward the cost of National Cyclone Risk Mitigation Project (NCRMP) Phase-II and intends to apply part of the proceeds towards Designing National Seismic Risk Mitigation Project (NSRMP) Phase II.

2. The objective of National Seismic Risk Mitigation Programme (NSRMP) is to reduce vulnerability of communities and their assets to natural disaster by taking appropriate mitigating measures and to strengthen the capacity of National and State entities to effectively plan for and respond to earthquakes.

3. This consultancy service is proposed to cover five States of Arunachal Pradesh, Delhi, Mizoram, Nagaland and Sikkim.

4. The scope of work broadly consists of preparing Detailed Project Reports for retrofitting of public structures, designing Earthquake Early Warning Dissemination System (EEWDS), formulating implementation arrangements and preparing documentation such as environment and social assessment, bidding documents etc.

5. The Project Monitoring Unit (PMU), NCRMP, NDMA now invites Expression of Interest (EoI) from eligible consulting firms' for providing the consultancy services.

6. The expressions submitted will be evaluated and shortlisted for Request for Proposal (RFP) stage based on following criteria's:

- i. Past experience of working in seismic risk related projects  
The firm shall furnish details of relevant similar assignments undertaken during the last five calendar years (2013-18) supported by copies of letter of award and completion certificate received from client.
- ii. Availability of key professionals/experts for the assignment  
The firm shall furnish a list of proposed professionals as per ToR highlighting their educational qualification and relevant experience in brief.
- iii. Financial capability  
The firm shall furnish details of annual total turnover, turnover from consultancy service and profit/loss for the last five years (i.e. FY 2013-2018) duly signed by CA and provide supporting certified copies of BS and P/L accounts.

7. The firms' submitting expressions shall be satisfying following eligibility criteria:
- i. registered in India
  - ii. working in similar field for at least five years
  - iii. positive net worth in at least 3 out of last 5 years
  - iv. should have minimum turnover of Rs. 12 Crore
  - v. should not have any conflict of interest for carrying out the assignment
  - vi. should not be sanctioned/debarred by the World Bank or any Government agencies
8. Expressions of interest (EOI), preferably not more than 150 pages prepared by firms' shall be containing all relevant information but not limited to:
- Introductory letter on letter head (with contact details – name of contact person, address, telephone, fax, email etc.) explaining how the firm is best to deliver the task.
  - Organization profile and branches/ offices within the country.
  - Information regarding fulfillment of eligibility criteria listed at point 7.
  - The EOI should contain relevant supporting document to substantiate the claims of the Consultant.
9. Consultants may associate with other firms but not more than three in the form of a joint venture or a sub-consultant to enhance their qualifications. Such association must be clearly stated as either Sub-consultant or Joint Venture.
10. The Request for Expression of Interest (REOI) is available at [www.ncrmp.gov.in](http://www.ncrmp.gov.in), NDMA website [www.ndma.gov.in](http://www.ndma.gov.in) and <https://eprocure.gov.in/epublish/app> for further details.
12. Expression of Interest, one copy each in physical and digital format must be delivered to the address given below on or before **10/01/2020 by 15:00 hrs.** The sealed envelope containing the submission should include the name and address of the firm and shall be clearly marked **“Expression of Interest – Consultancy Services for Designing National Seismic Risk Mitigation Project (NSRMP) Phase II”**.

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National Cyclone Risk Mitigation Project (NCRMP),  
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13. For further details Terms of Reference (ToR) may be referred as follows:-

# Hiring of Consultancy Services for Designing National Seismic Risk Mitigation Programme (NSRMP) Phase II

## Terms of Reference

### Introduction

1. Ministry of Home Affairs, Govt. of India had launched National Cyclone Risk Mitigation Project (NCRMP) in 2011 covering Andhra Pradesh and Odisha with an objective to reduce vulnerability to cyclone and other hydro-meteorological hazards of coastal communities in project States, and increase the capacity of the State entities to effectively plan for and respond to disasters. Currently second phase of the project is being implemented in six coastal States of Goa, Gujarat, Maharashtra, Karnataka, Kerala and West Bengal by PMU, NDMA.
2. One of the subcomponent under NCRMP Phase II is designing of a comprehensive National Seismic Risk Mitigation Programme (NSRMP). This will encompass activities that will strengthen risk assessment capabilities, raising public awareness, strengthening of building codes and land-use regulations, piloting retrofitting of critical infrastructure, and developing risk financing framework.
3. About 58.6% of Indian land mass is prone to earthquake (Zone III, IV and V). Unpredictability of earthquake hazard, vulnerability of structures/infrastructure along with lack of preparedness combined with poor local emergency response capacity leads to damages and losses in the event of such a disaster
4. PMU, NDMA has hired a Consultant for Designing NSRMP, now referred as NSRMP Phase I, covering eight high risk States of Assam, Bihar, Himachal Pradesh, Jammu & Kashmir, Manipur, Meghalaya, Tripura and Uttarakhand.
5. The scope of work under NSRMP Phase I, broadly consists of preparing Detailed Project Reports, designing of Earthquake Early Warning System, formulating implementation arrangements and preparing necessary documentation such as environment and social assessment, operation manual, bidding documents etc. required for proposing potential financing from multilateral institutions particularly the World Bank.

### Objective

6. The objective of the NSRMP is to reduce vulnerability of communities and their assets to natural disaster by taking appropriate mitigating measures and to strengthen the capacity of National and State entities to effectively plan for and respond to earthquakes.

## Coverage

7. There are 19 States/UTs of India lying either partially or fully in high risk seismic zones of iv & v and work has already started in the following eight States, selected considering high seismic risk owing to higher geographical area and population falling under seismic zone v. For easy reference, we may refer to it as NSRMP Phase I.

- i. Assam
- ii. Bihar
- iii. Himachal Pradesh
- iv. Jammu & Kashmir
- v. Manipur
- vi. Meghalaya
- vii. Tripura
- viii. Uttarakhand

8. After considering all aspects, it was realised that even after covering eight States, some States with very high population falling under seismic zones iv & v are still left out. In view of this, it is now proposed to expand the coverage of NSRMP by including following States/UTs. This would be NSRMP Phase II.

- i. Arunachal Pradesh
- ii. Delhi
- iii. Mizoram
- iv. Nagaland
- v. Sikkim

## Programme components

9. The NSRMP Phase I currently in progress in 8 States has been divided into four components as under:

- i. Component A:  
A-1: Earthquake Early Warning Dissemination System  
A-2: Enhancing Emergency Response Capacity

The objective of this component is to enhance the emergency response capacity of local governments and other agencies involved in earthquake disaster response.

- ii. Component B: Multi-Hazard Risk Mitigation of Infrastructure

This component will focus on reducing structural risk, mainly due to earthquake to critical infrastructure and public buildings in the State.

iii. Component C: Technical Assistance to Improve Disaster Risk Management.

The objective of this component is to improve the capacity of State Government authorities in managing the disaster risks as per the risk profile of the State. It would include development of a policy and platform to share and use information for risk management, detailed vulnerability assessment, setting up of accreditation programmes for engineers, architects, mason and construction workers etc.

iv. Component D: Project Management, Monitoring and Implementation Support.

This component will look after program implementation arrangements at National and State level including monitoring & evaluation, staff capacity building, preparation of requisite training materials,; preparation of project manuals, project management support (including environment and social monitoring).

### **Scope of services under NSRMP Phase II**

**10.** The scope of services will include working on components A & B for 05 States namely Arunachal Pradesh, Delhi, Mizoram, Nagaland and Sikkim.

#### **10.1 Component A:**

- A-1: Earthquake Early Warning Dissemination System (EEWDS)
- A-2: Enhancing Emergency Response Capacity

This component will focus on:

- a. Design/Development of Earthquake Early Warning Dissemination System (EEWDS) based on latest technology for both regional and local earthquake alert system. The system shall enable people and systems to take actions to protect lives and property and also to alert the Emergency Response System. This system is envisaged to be an alert system which will alert citizens and institutions immediately on the onset of the event and not as a forecasting system.
  - Under this component, Consultant is required to recommend Technology Option consisting of detailed design of early detection of earthquake, alert creation and dissemination to the community to reduce loss of life and property. Integration with already existing national network is to be designed/suggested, taking in to account compatibility issues, wherever possible.
  - Development of Alert System/EWDS for Earthquakes in India and recommend technology options and feasibility of the options.
- b. Upgrading existing (human resources, equipment, training needs) and providing additional search and rescue equipment for: State Disaster Response Forces, Fire & Emergency Services and other emergency/first responders.
  - Consultant is expected to suggest the latest list of Search & Rescue equipment taking into account the existing inventory and the required ones in addition.

- c. Training and capacity building programme for emergency/first responders.
  - A manual for training and capacity building is required to be prepared by the Consultant.
- d. Augment the disaster risk management capacities of the communities.

## 10.2 Component B: Multi-Hazard Risk Mitigation of Infrastructure

- a. Retrofitting of selected critical infrastructure such as given under but not limited to:
  - Lifeline buildings, structures and critical facilities like schools, colleges and academic institutions; hospitals and health facilities, tertiary care centres, community centres
  - Important buildings that ensure governance and business continuity like offices of the district collector and superintendent of police in districts; Fire stations, communication buildings, Panchayat Office and Post Office buildings
  - Structures designated to be used for post-earthquake temporary rehabilitation of affected persons and operations
  - Buildings of national importance like Secretariats, historical monuments, museums, heritage buildings, strategic assets and vital installations
  - Any other structures as deemed fit to be worked as lifeline by State Government such as critical links- bridges, data centres, emergency installations, transport terminals etc.
  - Consultant in consultation with SPIU and other concerned State Departments to identify the critical infrastructure needing retrofitting- type and extent.
- b. Earthquake risk mitigation and preparedness measures such as retrofitting and/or constructing evacuation roads, bridges, landing strips and helipads and emergency shelters/ multi-hazard shelters on safe grounds for evacuation and enhancing Search and Rescue capacity.
- c. The scope of retrofitting would include Structural Design Based Report (SDBR) after detailed survey, conditional assessment, and Non-destructive testing along with detailed analysis. The Consultant will determine suitable tests required and will carry out the tests as per the requirement, will adopt standard procedure and document the findings.
- d. The performance level of the retrofitted structures is to be ensured based on the utilization/importance factor of the structures and needs of the concerned State Governments.
- e. Retrofitting should adhere to the National Building Codes/BIS/NDMA Guidelines and consistent with the international best practices. Wherever applicable, International Codes may be adopted for design and construction.
- f. Preparation of Detailed Project Reports for at least 50% contracts for civil works (*risk mitigation infrastructure*); and DPRs for remaining components (*DPRs will include safeguard assessments*). Documents should be in the 'Ready for Bid' stage.
- g. Constructing small Technology Demonstration Units of critical infrastructure such as schools, hospitals etc.
  - The Technology Demonstration Unit will be identified by the State. The size and location of TDUs will be decided in consultation with State authorities.

Consultant will develop design (new/retrofit) and construction drawings, prepare DPR and Bid Documents for the investment.

h. Environmental & Social Management

- Preparation of an Environment and Social Management Framework (ESMF)
- Conduct Environment and Social Assessments for sub-projects that are identified for investment under the proposed project
- Preparation of Environment and Social Management Plans for sub-projects that are identified for investment under the proposed project
- Conduct formal consultations and ensure participation of key stakeholders in formulation of plans and designs, including systematic documentation of the same
- Preparation of an Environmental and Social Commitment Plan
- Prepare Communication and information dissemination strategy
- Translate key/summary documents in vernacular languages
- Facilitate disclosure of information of the project as well as environment and social management instruments prepared for the project

The requirements set forth in the Environment and Social Standards under the Bank's Environment and Social Framework which can be accessed/ referred at the link <http://www.worldbank.org/en/projects-operations/environmental-and-social-framework> are to be used for delivering the outputs mentioned above.

The consultant needs to ensure that the environment and social management instruments are aligned to the specific needs of the project and commensurate to the nature and scale of proposed interventions.

**11.** The Role of the Consultant would broadly comprise planning, preparing Detailed Project Report (DPR) and other supporting documents for NSRMP and inter-alia would broadly comprise preparing the following:-

- a. Inception report
- b. Investment plans for components
- c. Detailed project reports for at least 50% (priority) investments - Phase I investments. While preparing DPR of identified work, the Consultant may consult relevant line Depts. of State Govt. through SPIU. However, responsibility for conducting required test/ preparing DPRs remains with the Consultant.
- d. Project Procurement Strategy for Development (PPSD) and initial procurement plan
- e. Environmental & Social Management Instruments that, includes (i) an Environmental and Social Commitment Plan, (ii) Environment and Social Management Framework; (iii) Environment and Social Assessment Reports for sub-projects; (iv) Environment and Social Management Plans for sub-projects - as needed, following the requirements set forth in the Environment and Social Standards under the Bank's Environment and Social Management Framework.
- f. Consultations and participation of key stake holders in formulation of plans and designs, including systematic documentation of the same

- g. Information Disclosure of environment and social instruments, including translation of key/summary documents in vernacular

The consultant will also help coordinate with various stake holders such as – MHA, MoUD, DEA, IMD, NIDM, NDRF, SDRFs, Fire Cell – MHA, Fire & Emergency Services, IITs, BIS, participating State Disaster Management Authorities, Academic/Technical Institutions, etc.

### Manpower Requirements

14. The estimated positions and estimated time requirement for the given manpower considering the scope of work is as follows:

S. No.	Position	Number (Tentative)	Person months (Tentative)
1.	Team Leader (MBA or equivalent preferably with Civil Engineering qualification with at least 20 years' project management experience in similar large scale projects)	01	12
2.	State Coordinator (Masters in Earthquake Engineering/ Structural Engineering/ Geology/ Seismology/ Geo-Technical engineering with at least 15 years' experience in projects (consultancy or construction)	05 (State Co-ordinators)	12x5=60
3.	Structural Engineering Specialist (Masters in Structural/ Earthquake Engineering with minimum 10 years' experience in design of seismic retrofitting of public infrastructure (buildings/transport/etc)	05 (One in each State)	12x5=60
4.	Telecommunication/ Instrumentation Engineer (Bachelors in Communication/ Electronics/ Instrumentation/ Similar field with minimum 10 years experience in development early warning equipment/ alert system)	01	04
5.	Environmental Specialist (Master's in Environmental Sciences/ Engineering/ Planning/ Environment Management with min. 7 year's relevant experience of working in disaster related projects)	01	04
6.	Social Specialist (MSW or equivalent with min. 7 year's relevant experience of working in disaster related projects)	01	04
	<b>Total</b>	<b>14</b>	<b>144</b>

\*One State Co-ordinator and One Structural Engineer will be in each of the five Project States. Both State Co-ordinators and Structural Engineers in State will be operating from their own offices in State Headquarters provided by the Consultant. They will be working in co-ordination with Nodal officer's of the State.

Consultants will assess requirement and propose additional personnel requirement (non-key experts) and mobilize as necessary to fulfil the obligations at their cost.

### **Deliverables with Time line**

**15.** The deliverable and the timeline would comprise the following:

S. No.	Deliverables	Timeline
1.	Inception Report	1 month
2.	Project Scoping Report complete with component wise investment plan for each State including project scope (subproject listing)	3 months
3.	Environmental and Social Management Framework (ESMF) document and Environmental and Social Commitment Plan (ESCP) document	4 months
4.	Document for designing of Earthquake Early Warning Dissemination System for all States covered under the project	6 months
5.	DPRs complete with EIA/SIA/EMP/RAP of identified structures for the states of Arunachal Pradesh	8 months
6.	DPRs complete with EIA/SIA/EMP/RAP of identified structures for the states of Nagaland and Mizoram	9 months
7.	DPRs complete with EIA/SIA/EMP/RAP of identified structures for the states of Sikkim	10 months
8.	DPRs complete with EIA/SIA/EMP/RAP of identified structures for the states of Delhi	12 months

### **Time Schedule**

**16.** The contract period will be for 12 months.

### **Review & Monitoring**

**17.** The Consultant will be reporting to PMU at NDMA. Status of the project shall be communicated to PMU through fortnightly/monthly brief progress report (10-15 pages) by the Consultant and specific meetings as needed with the Consultant. The review meetings should be attended by Team Leader and State coordinators. However, the Consultant may invite any other member of the Team as required.

Consultant's performance and quality of work will be reviewed by a Review Committee set up by PMU, NDMA including representatives from participating States.

### **Assistance Requirements for Foreign Consultants**

**18.** PMU, NCRMP, NDMA will facilitate all necessary clearances from the Project State Govt .agencies./Departments for the visit by foreign consultants for the study on written request from the contracted consultant firm. However, travelling, residential and office accommodation, equipment, transportation arrangements etc will have to be made and related expenses to be borne by the contracted consultant firm.

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