



Government of Nepal
National Disaster Risk Reduction and Management Authority
Earthquake Housing Reconstruction Project (EHRP)
Project Implementation Unit (PIU)
Singhadurbar, Kathmandu

REQUEST FOR EXPRESSIONS OF INTEREST

Date of Publication: 07-December-2022

Nepal

Earthquake Housing Reconstruction Project (EHRP)

Loan No./Credit No./ Grant No.: IDA 65300

Assignment Title: *Preparation of detailed project report with detailed assessment of public facilities*

Reference No. (As per Procurement Plan): *NP-NDRRMA-313477-CS-CQS*

The National Disaster Risk Reduction and Management Authority, Singhadurbar, Kathmandu has received financing from the World Bank toward the cost of the Earthquake Housing Reconstruction Project (EHRP) and intends to apply part of the proceeds for consulting services.

The consulting services (“the Services”) include Preparation of detailed project report with detailed assessment of public facilities as mentioned in Terms of Reference. Overall duration of the project will be five (5) months. Commencement of the work will be approximately February, 2023 and will be ensuring full consistency with the TOR attached to in this REOI.

The Terms of Reference (TOR) for the primary procurement stage for the assignment are attached to this request for expressions of interest.

The National Disaster Risk Reduction and Management Authority, Singhadurbar, Kathmandu, now invites eligible consulting firms (“Consultants”) to indicate their interest in providing the Services. Interested Consultants should provide information demonstrating that they have the required qualifications and relevant experience to perform the Services. The shortlisting criteria are: attached with this request for expression of interest.

Key Experts will not be evaluated at the shortlisting stage.



The consulting firm securing highest marks after evaluation will be shortlisted for submission of technical and financial proposal. Furthermore, all procedures of selection of consultant shall be carried out under Consultant's Qualification Based Selection (CQS) method of World Bank.

The attention of interested Consultants is drawn to Section III, paragraphs, 3.14, 3.16, and 3.17 of the World Bank's "Procurement Regulations for IPF Borrowers" July 2016 (Revised in November, 2017 and August 2018) ("Procurement Regulations"), setting forth the World Bank's policy on conflict of interest.

In addition, please refer to the following specific information on conflict of interest related to this assignment:

Consultants shall not be hired for any assignment that would be in conflict with their prior or current obligations to other clients, or that may place them in a position of being unable to carry out the assignment in the best interests of the Borrower. Without limitation on the generality of the foregoing, Consultants shall not be hired under the circumstances set forth below:

- a. a firm that has been engaged by the Borrower to provide Goods, Works, or Non consulting Services for a project (or an affiliate that directly or indirectly controls, is controlled by, or is under common control with that firm), shall be disqualified from providing Consulting Services resulting from, or directly related to, those Goods, Works, or Non-consulting Services. This provision does not apply to the various firms (Consultants, contractors, or suppliers), which together are performing the contractor's obligations under a turnkey or design and build contract;
- b. a firm that has been engaged by the Borrower to provide Consulting Services for the preparation or implementation of a project (or an affiliate that directly or indirectly controls, is controlled by, or is under common control with that Consulting firm), shall be disqualified from subsequently providing Goods, Works, or Non-consulting Services resulting from, or directly related to those Consulting Services. This provision does not apply to the various firms (Consultants, contractors, or suppliers), which together are performing the contractor's obligations under a turnkey or design and build contract;
- c. neither a Consultant (including personnel and sub-consultants), nor an affiliate (that directly or indirectly controls, is controlled by, or is under common control with that Consultant), shall be hired for any assignment that, by its nature, creates a conflict of interest with another assignment of the Consultant;
- d. Consultants (including their experts and other personnel, and sub-consultants), that have a close business or family relationship with a professional staff of the Borrower, or of the project implementing agency, or of a recipient of a part of the Bank's financing, or any other party representing or acting on behalf of the Borrower, that is directly or indirectly involved in any part of:
 - i. the preparation of the TOR for the assignment;
 - ii. the selection process for the contract; or



iii. the supervision of the contract, may not be awarded a contract, unless the conflict stemming from this relationship has been resolved in a manner acceptable to the Bank throughout the selection process and the execution of the contract.

Consultants may associate with other firms to enhance their qualifications, but should indicate clearly whether the association is in the form of a joint venture and/or a sub consultancy. In the case of a joint venture, all the partners in the joint venture shall be jointly and severally liable for the entire contract, if selected.

A Consultant will be selected in **Consultant's Qualification based method** described in the Procurement Regulations and to be specifically set out in the Request for Proposals.

Further information can be obtained at the address below during office hours:

National Disaster Risk Reduction and Management Authority,
Singhadurbar, Kathmandu

Expressions of interest must be delivered in a written form with sealed hardcopy by hand to the address below by 22 December, 2022 at 12:00 hours.

National Disaster Risk Reduction and Management Authority
Attn: Project Director
Singhadurbar, Kathmandu, Nepal
Tel: +977-01-4211202
E-mail: ehrp.piu@gmail.com



2. Instructions for submission of Expression of Interest

1. Expression of Interest may be submitted by a sole firm or a joint venture of consulting firms and the maximum number of partners in JV shall be limited to three.
2. Interested consultants must provide information indicating that they are qualified to perform the services (descriptions, organization and employee and of the firm or company, description of assignments of similar nature completed in the last 7 years and their location, experience in similar conditions and general qualifications and related all financial documents with required evidences).
3. This expression of interest is open to all eligible consulting firms.
4. A Consultant will be selected in accordance with the Consultant's Qualification based Selection Method as specified in World Bank Procurement Regulations, July, 2016 (revised in November, 2017 and August 2018)
5. Expression of Interest should contain following information:
 - (i) A covering letter addressed to the representative of the client on the official letter head of company duly signed by authorized signatory.
 - (ii) Applicants shall provide the following information in the respective formats given in the EOI document:
 - EOI Form: Letter of Application (Form 1)
 - EOI Form: Applicant's Information (Form 2)
 - EOI Form: Work Experience Details (Form 3(A), 3(B) & 3(C))
 - EOI Form: Capacity Details (Form 4)
6. Applicants may submit additional information with their application but shortlisting will be based on the evaluation of information requested and included in the formats provided in the EOI document.
7. The Expression of Interest (EOI) document must be duly completed and submitted in sealed envelope and should be clearly marked as "EOI Application for Short-listing for the ***Preparation of detailed project report with detailed assessment of public facilities.*** The Envelope should also clearly indicate the name and address of the Applicant. No electronic proposal will be received.
8. The completed EOI document must be submitted on or before the date and address mentioned in the "Request for Expression of Interest". In case the submission falls on public holiday the submission can be made on the next working day. Any EOI Document received after the closing time for submission of proposals shall not be considered for evaluation.



3. Evaluation of Consultant's EOI Application

Consultant's EOI application which meets the eligibility criteria will be ranked on the basis of the Ranking Criteria.

Eligibility & Completeness Test	Compliance
Copy of registration of the consulting firm	
VAT/PAN registration certificate	
Tax clearance certificate for FY 2078/79 or evidence of tax return extension for FY 2078/79	
Letter of Declaration that no de-barred from Government of Nepal as well as World Bank	
EOI Form 1: Letter of Application	
EOI Form 2: Applicant's Information Form	
EOI Form 3: Consulting Firm Experience	
EOI Form 4: Capacity	

EOI Evaluation Criteria	Minimum Requirements	Score
Experience		
General Experience of consulting firm	<p><i>Each consulting firm of sole or Lead Partner (JV) application should have at least five (5) years of general experience and 3 (three) years of general experience for other partners in case of JV</i></p> <p><i>General Experience list (3A) should be filled.</i></p>	20
Specific Experience and Similar Nature Experience of consulting firm within last 7 years.	<p><i>Experience in earthquake resistant structural design/supervision of public buildings like schools/ hospitals/ commercial/ office buildings in at least two (2) numbers of different projects of each contract value of at least NPR 1 million within last 5 years.</i></p> <p><i>No. successfully completion of Donor funded projects regarding building facilities is highly preferable.</i></p> <p><i>Experience in conducting detailed vulnerability assessment/ retrofit design of at least 2 number of building projects.</i></p>	60



	<i>Submit all the experiences with evidences regarding Experience in earthquake resistant structural design/supervision of public buildings like schools/ hospitals/ commercial/ office buildings.</i>	
Capacity		
Financial Capacity	<i>Average Annual Turnover should be NRs. 1,80,00,000 (average of best 3 years among last 7 years). Where lead partner should have at least 40% of it.</i>	20

Minimum score to pass: 60 marks



1. EOI Forms & Formats

Form 1: Letter of Application

Form 2: Applicant's information

Form 3: Experience (*General, Specific and Geographical*)

Form 4: Capacity



Letter of Application

(Letterhead paper of the Applicant or partner responsible for a joint venture, including full postal address, telephone no., fax and email address)

Date:

To,

Full Name of Client: _____

Full Address of Client: _____

Telephone No.: _____

Fax No.: _____

Email Address: _____

Sir/Madam,

1. Being duly authorized to represent and act on behalf of (hereinafter "the Applicant"), and having reviewed and fully understood all the short-listing information provided, the undersigned hereby apply to be short-listed by [Insert name of Client] as Consultant for {Insert brief description of Work/Services}.
2. Attached to this letter are photocopies of original documents defining:
 - a) the Applicant's legal status;
 - b) the principal place of business;
3. [Insert name of Client] and its authorized representatives are hereby authorized to verify the statements, documents, and information submitted in connection with this application. This Letter of Application will also serve as authorization to any individual or authorized representative of any institution referred to in the supporting information, to provide such information deemed necessary and requested by you to verify statements and information provided in this application, or with regard to the resources, experience, and competence of the Applicant.
4. [Insert name of Client] and its authorized representatives are authorized to contact any of the signatories to this letter for any further information.1
5. All further communication concerning this Application should be addressed to the following person,

[Person]



[Company]

[Address]

[Phone, Fax, Email]

6. We declare that, we have no conflict of interest in the proposed procurement proceedings and we have not been punished for an offense relating to the concerned profession or business and our Company/firm has not been declared ineligible.
7. We further confirm that, if any of our experts is engaged to prepare the TOR for any ensuing assignment resulting from our work product under this assignment, our firm, JV member or sub-consultant, and the expert(s) will be disqualified from short-listing and participation in the assignment.
8. The undersigned declares that the statements made and the information provided in the duly completed application is complete, true and correct in every detail.

Signed _____ :

Name _____ :

For and on behalf of (name of Applicant or partner of a joint venture):

Applicant's Information Form

(In case of joint venture of two or more firms to be filled separately for each constituent member)

1. Name of Firm/Company:
2. Type of Constitution (*Partnership/ Pvt. Ltd/Public Ltd*)
3. Date of Registration / Commencement of Business (*Please specify*):
4. Country of Registration:
5. Registered Office/Place of Business:
6. Telephone No; Fax No; E-Mail Address



7. Name of Authorized Contact Person / Designation/ Address/Telephone:

8. Name of Authorized Local Agent /Address/Telephone:

9. Consultant's Organization:

10. Total number of staff:

11. Number of regular professional staff:

(Provide Company Profile with description of the background and organization of the Consultant and, if applicable, for each joint venture partner for this assignment.)

Experience

3(A). General Work Experience

(Details of assignments undertaken. Each consultant or member of a JV must fill in this form.)

Note: Supportive experience letter of organization should be mandatorily attached with this.

S. N.	Name of assignment	Location	Value of Contract	Year Completed	Client	Description of work carried out
1.						
2.						
3.						
4.						
5.						
6.						



7.						
----	--	--	--	--	--	--

3(B). Specific Experience

Details of similar assignments undertaken in the previous seven years

(In case of joint venture of two or more firms to be filled separately for each constituent member)

Assignment name:	Approx. value of the contract (in current NRs; US\$ or Euro) ² :
Country: Location within country:	Duration of assignment (months):
Name of Client:	Total No. of person-months of the assignment:
Address:	Approx. value of the services provided by your firm under the contract (in current NRs; US\$ or Euro):
Start date (month/year): Completion date (month/year):	No. of professional person-months provided by the joint venture partners or the Sub-Consultants:
Name of joint venture partner or subConsultants, if any:	Narrative description of Project:



Description of actual services provided in the assignment:

**Note: Provide highlight on similar services provided by the consultant as required by the EOI assignment.
Supportive experience letter of organization should be mandatorily attached with this.**

Firm's Name: _____

3(C). Geographic Experience

Experience of working in similar geographic region or country

(In case of joint venture of two or more firms to be filled separately for each constituent member)

<i>No</i>	<i>Name of the Project</i>	<i>Location (Country/Organization)</i>	<i>Execution Year and Duration</i>
<i>1.</i>			
<i>2.</i>			
<i>3.</i>			
<i>4.</i>			



- **Average Annual Turnover of Best of 3 Fiscal Year Of Last 7 Fiscal Years**

(Note: Supporting documents for Average Turnover should be submitted for the above.)



Government of Nepal
National Disaster Risk Reduction and Management Authority
Earthquake Housing Reconstruction Project Second Additional
Financing (EHRPAF2)
Project Implementation Unit (PIU)
Singh Durbar, Kathmandu, Nepal

Terms of Reference

For

**Hiring a firm for preparation of detailed project report with detailed assessment of
public facilities
(Package I)**

December, 2022



Table of contents:

Title

Page

1. Introduction	1
2. Objective of the Work	1
3. Scope of Work:	2
4. Reporting and Deliverables	5
5. Payment Schedule:	6
6. Qualifications and Experience of the Consulting Firm and Key Personnel:	7
7. Selection Criteria:	1



1. Introduction

Nepal is one of the most disasters prone countries affected by multiple recurrent hazards. Every year, the country suffers from substantial loss of human lives and property damage due to natural and non-natural disasters. In the last 45 years (1971 to 2015), more than 40,000 people have lost their life due to disasters. This number is more than two persons losing lives every day. In addition to the high rate of casualties in the period mentioned above, more than 75,000 people have been injured, and about 3,000,000 have been affected. These disasters have become a severe burden to the people and the community all over Nepal. In the majority of the districts of Nepal, disasters occur recurrently, where more than 90 % of the population are at high risk of death due to two or more two types of disasters

A 7.8 Mw earthquake struck the country on 25 April 2015 affecting over 40 out of 75 districts in the Western, Eastern, and Central regions. A maximum intensity level of IX (MMI) was estimated in areas near the epicenter. Hundreds of aftershocks occurred, including a 7.3 Mw earthquake on 12 May 2015 which have caused further damage to the infrastructure and casualties.

There are 36,450 education centers recorded in the Educational Management Information System (EMIS) (<https://cehrd.gov.np/>) managed by the Department of Education. Of these 29,587 (81.4%) are community-based education centers 6,411 are institutional schools and 452 are religious education center. Similarly, there are 9,885 health facilities registered in Nepal Health Facility Registry 2021/22 (<https://nhfr.mohp.gov.np/>), managed by the Ministry of Health and Population. Of these 7,632 are government facility and 2,253 are non-government facility. There are 32 federal health facilities, 145 provincial health facilities and 7,363 local health facilities.

Public Facilities in Record

District	College	School	Health	Other Gov	TOTAL
65	1417	32749	9253	4103	47522
12	30	2201	728	367	3326
77	1447	34950	9981	4470	50848

A technical assistance supported by the World Bank carried out structural integrity and damage assessment for the earthquake affected district. A web-based platform was prepared to view surveyed data, analyze and suggest appropriate interventions for each school building based on the analyzed data, along with the cost for each proposed intervention type. SIDA's findings reveal that casualties at schools would have been massive had the classes been in session on that unfortunate day of 25 April 2015. Out of 5,768 public schools, 153 Higher Education facilities with 17,618 buildings surveyed, only around 21% of buildings were unaffected, and 26% suffered minor damage, whereas; about 23% of buildings collapsed, and about 30% buildings suffered significant damage. The number of rooms in the completely collapsed school buildings was 12,568, out of which 9,313 were classrooms. The number of students enrolled in the collapsed classrooms was 184,778. This prompts the urgent need for the country to assess the educational infrastructure nationwide and take timely corrective actions to avoid human



casualties from the disaster. Critical findings of SIDA led to upscale the activities and conducted Structural Integrity Assessment (SIA) across the whole country.

Nepal's apex institution to manage disaster risk reduction, the National Disaster Risk Reduction and Management Authority (NDRRMA) was established on 16 December 2019 under the Ministry of Home Affairs, along with the appointment of its Chief Executive. The primary responsibility of NDRRMA is to operate and manage activities related to disaster management effectively. NDRRMA functions under direct oversight and control of and as secretariat to Council headed by Prime minister and Executive Committee headed by the Home Minister. NDRRMA performs the functions and duties relating to disaster risk reduction and management in coordination with the Council, Executive Committee, concerned ministries, and other agencies of the Government of Nepal.

NDRRMA has received credit from the International Development Association (IDA), World Bank to implement EHRP (P155969, 6530-NP) with an objective to enhance Nepal's ability to improve long-term disaster resilience. NDRRMA will be conducting the Detailed Multi Hazard risk Assessment of selected Critical Facilities.

This term of reference has been prepared to carry out the detailed multi-hazard assessment of selected eight numbers of critical facilities.



2. Objective of the Work

The principal objectives of the consulting works are:

- is to assess the vulnerability of the critical facilities in terms of multi-disasters, such as earthquake, fire, flood, inundation, lightening, landslide and others local disasters;
- to provide the engineering solutions to make facilities multi-disaster resilient;
- prepare detailed project report to make accessed facilities disaster resilient;

The specific objectives of this consultancy service are:

- i) to collect the as built information of all the building of facilities;
- ii) Study on the assessment of possible risks/ hazards of the site based on the primary and secondary data;
- iii) to identify the possible risks;
- iv) Study the structural system of all the building including load path and mechanical properties of the structural elements by conducting the required non-destructive tests;
- v) Study the architectural and non-structural information of the buildings and prepare inventory of existing details;
- vi) to carry out the vulnerability assessment of the building with regards to different disasters such as Earthquake, Landslide, Flood, Inundation, lightening and other relevant disasters that are prevailing in that area;
- vii) to identify the level of safety of the buildings in terms of earthquake and multi-disasters;
- viii) to carry out the strengthening design (retrofitting) of the building if the building is found structurally deficient ;
- ix) to provide recommendations if there is any risks/ hazard at the site;
- x) to provide the recommendations to mitigate the non-structural risk of the building and site;
- xi) to access the accessibility features of the building (disable friendly);
- xii) to access the condition of the electrical wiring, electrical poles and other equipment in terms of electrical hazard and to provide recommendation to mitigate such hazards;
- xiii) to access the condition of existing water supply, sanitation, and hygiene facilities and to provide recommendations to improve the hygiene;
- xiv) to prepare bill of quantities, carry out rate analysis and cost estimate, specification of required interventions on building and at site.



3. Scope of Work:

The detailed multi hazard assessment as well as the preparation of detailed project report to make the critical buildings and the critical facilities resilient from different hazards. The work will be carried out for the following **eight (8)** facilities with **25 numbers of buildings**.

The details of the facilities are provided in the Annex A.

For the detailed multi-hazard risk assessment and the preparation of the detailed project report, the selected firms will carry out the following activities under this consultancy:

- a) participate in the aggregate planning and adjustment of project time to time;
- b) coordinate with the Client, concerned district administrative office, municipalities of the selected districts, selected facilities for implementation arrangements. Make necessary arrangements and contacts with local authorities, in particular the local government and concerned education, health and public government building administration and other concerned government office administration in order to carry out the assessment work and to have access to those facilities in the specified districts under the consulting service;
- c) prepare the assessment team to mobilize at the field with necessary documents and instruments required for the assessment procedure;
- d) set up and document internal quality control procedures to control and monitor the accuracy and consistency of the data gathered;
- e) prepare the project plan including number of buildings and facilities to be accessed and mobilization of assessment teams along with quality assurance plan. Get them approved from the client;
- f) Detailed Multi Hazard Assessment work;
 - Review of the documents, standards, codes which are used to carry out the Multi-hazard risk assessment of the buildings/ particular sites
 - Desk study to obtain data, maps and information relevant to the existing buildings, types of construction materials, relevant structural and non-structural components of different types of building, assessment procedure of different types of building throughout the world;
 - Collection of primary, secondary and tertiary data sources which help to understand the possible risk at site in past and in future;
 - Collect all the required information of the building, facility, and site to carry out the Multi-hazard assessment;
 - Collection of as built information, preparation of as built drawings, verification of existing design/ drawings if available;
 - To prepare as-built drawings of plan and elevation of the existing building with actual field measurements. Also, prepare inventory of each component and record with photographs. Any changes required in the buildings as per the requirements from the facility representative (such as the addition of a floor, change in the room plans, etc) should be considered if any;



- Carry out foundation pit tests to determine its condition and dimensions to review the safety of the building foundation;
- To record the structural system, roofing and flooring system, load path, individual components and its connections;
- To carry out necessary semi-destructive and/or non-destructive tests to determine the mechanical properties and condition of structural materials and components;
- Verification and validation of the existing design drawings, development of existing drawings through non-destructive and semi-destructive tests;
- Assessment of the accessibility features of the building and recommendation to make buildings/ facilities accessible to all if require;
- To carry out a qualitative and quantitative seismic vulnerability assessment of the structure at global as well as component level using the most appropriate computational tools and relevant guidelines;
- Check for Compliance of the building with local By Laws and Building Code;
- Analysis of the site, facility and building in regard to possible risks/ hazards;
- Carry out the assessment for the electrical hazards that are present at the site or probable to appear at the site in the future;
- Carry out the assessment of the existing water supply, sanitary and hygiene facilities
- Carry out the study of the disaster mitigation initiatives taken by the facility;
- Prepare a detailed multi-hazard assessment report with the output of the assessment reflecting the safety level of the building, facility, and site in terms of structural, non-structural and multi-hazards. Provide recommendations to make the facility resilient ;

g) Tests

Appropriate semi-destructive or non-destructive tests for seismic assessment are to be carried out in lieu of visual inspection of surface condition.

Laboratory investigation when and where necessary should be carried out to test the samples of existing materials.

For load-bearing masonry components, necessary tests may include, but are not limited to:

- Tests to determine the shear strength of masonry walls like shove test (in-situ push shear test), diagonal compression test on prisms in lab;
- Tests to determine the compressive strength of masonry walls like in-situ flat jack test, axial compression test on masonry prism in lab or compressive tests on individual masonry units and mortar and use of empirical relations (compressive strength of mortar can be estimated from drill/pullout resistance, penetrometer test, etc. as appropriate for the site);
- Ferro-scanner tests to determine the presence and position of internal reinforcements.



For concrete components, besides visual observation of surface distress and sounding tests, other necessary tests may include, but are not limited to:

- Tests to determine the compressive strength of concrete like rebound hammer, ultrasonic pulse velocity test, lab test on drilled cores;
- Tests to determine the presence, position and condition of reinforcement like ferro-scanner, electrical potential test.

For timber components, besides visual observation of surface distress or decay, other tests may include, but are not limited to:

- Tests to determine the internal condition and location of decay like sounding tests using hammer and conducted by experienced personnel, drill/pullout resistance using standard resistograph instruments.

For steel components, besides visual observation of distress and rust, other tests may include, but are not limited to:

- Measurement of effective section (after removal of rust and paint) at critical points to confirm adequate safety of the members;
- Measurement of excessive deflection if present in any members and confirmation of cause weather due to fatigue, corrosion, buckling or other reasons;

For overall building, besides visual observation of settlement, other tests may include, but are not limited to:

- Building tilt measurement using appropriate instrument like plumb bob, theodolite;
- Foundation pit tests to confirm the size and distress of foundation

The quantities and locations of each test shall be requested upon consideration of particular aspects of the building by the Consultant and conducted only after approval by the Client. Prior information on schedule of all site as well as lab tests should be communicated to the Client, whereby technical representative of the Client may monitor the tests. Standard testing procedures such as BS, ASTM or IS should be followed, but any deviation requires sufficient justification from the Consultant and approval by Client.

h) Detailed Project Report:

- i. Based on the assessment, to evaluate the alternatives of retrofitting the building, if found necessary. Compare the technical and financial feasibility of different options with due considerations on cost, time of implementation, level of intervention required;
- ii. Selection of suitable retrofitting scheme among the different alternatives;
- iii. Development of detailed working drawing for the designed retrofitting options;
- iv. Development of design drawing to improve the non-structural component safety;
- v. Provide recommendations with design/drawings to make the facility resilient in terms of multi-disasters;



- vi. Provide recommendations to mitigate the electrical hazards that exists and may arise in the facility
- vii. Provide recommendations to make sanitary, water supply, air quality and other services hygiene;
- viii. Prepare detailed design and drawing for the different interventions recommended to make the building/ facility resilient in future disaster;
- ix. Provide an emergency evacuation plan of the building in case of disaster;
- x. Prepare cost estimate, carry out rate analysis, prepare bill of quantities (BOQ) specification of all the items and works;
- xi. Prepare detailed project report that includes the design, drawing, BOQ, rate analysis, cost estimate, and specification.

4. Reporting and Deliverables

The selected firm shall present the deliverables to the client as outlined below:

- a. Inception Report:
The inception report shall be submitted before 30 days from the date of signing the contract. The report shall outline the organization's plan to complete the task on time. Report will present the assessment methodology for different building typologies, different tests that will be carried out during the assessment with the time schedule. Presentation to the client on inception report is also required.
- b. Phase-I Report:
Phase I report shall be submitted within 60 days from the date of the agreement. It includes the progress of the assessment works carried at the field, details of the different tests carried out, information about the risks and hazards at the site, as-built drawings prepared and initial analysis of the assessment work of the buildings and facilities. Presentation on the progress of assessment work need to be carried out to the client and stakeholder as decided by client.
- c. Phase-II Report:
Phase-II report shall be submitted within 120 days from the date of agreement. The report should contain the output of the multi-hazard assessment part. It shall include detail report of the assessment along with the recommendation to make the facilities and buildings resilient. The phase I report contains the following deliverables:
 - i. Site study report and information
 - ii. As build information of the facilities (Buildings)
 - iii. Inventory of existing architectural, and structural components
 - iv. Analysis of the site, facility and building in regard to possible risks/ hazards



- v. Results of different non-destructive, semi-destructive, and other tests carried out
- vi. Assessment details of non-structural components within the facilities
- vii. Multi-hazard risk assessment report with conceptual analysis and design of the different recommendations to make facility (buildings) resilient.

Note: the assessment report of individual buildings needs to be submitted along with the risk assessment of the facility.

Presentation on the phase I report will be made by the consultant in presence of experts and the client.

d. **Draft Report:**

The draft report shall be submitted within 150 days from the date of agreement. The report should cover the entire scope of work. The presentation on the draft report will be made by the consultant in presence of experts and the client. The draft final report should contain the following deliverables:

- i. Final outputs of the assessment work as provided in the phase I report
- ii. Detail architectural and working drawing of the retrofitting works at an appropriate scale
- iii. Structural analysis models
- iv. Retrofit design report of individual building
- v. Other interventions including non-structural mitigations need to carry out at the facilities to make them resilient
- vi. Emergency evacuation plan of the building and the facility
- vii. Detail Cost and quantity estimate, rate analysis of each item used form district rate analysis, bill of quantity (BOQ) and technical specification
- viii. Abstract of cost of each component and consolidated abstract of costs

e. **Final Report:**

The final report shall be submitted within 180 days from the date of signing the agreement after incorporating all the suggestions from the Client on the Draft final report.

5. Payment Schedule:

The payment shall be made as follows:

S.N.	Items	%
1.	On submission and approval of Inception Report	20
2.	On submission and approval of Phase-I report	15



3.	On submission and approval of Phase-II report	15
4.	On approval of Draft Final report	30
5.	On approval of Final report	20
	Total	100%

Submission of hard copy as well soft copy shall be made in all phases.

6. Qualifications and Experience of the Consulting Firm and Key Personnel:

The tasks will be implemented by a consulting firm with proven track record, technical expertise, and human resources and operational capacity to undertake assignments described in this TOR. Experience in the field of multi-hazard and seismic vulnerability assessment of buildings and site, retrofit design of buildings will be an advantage.

General Qualifications:

- The Consulting firm must be legally registered/recognized/competent institution. It must have registered in PAN/VAT and timely cleared the taxes. However, for non-resident foreign consulting firm this requirement shall not be applicable.
- The Consulting firm shall have at least five (5) years of general experience..

Health & Safety Requirements

- The consulting firm should provide the evidence of implementation of projects considering health and safety protocol defined by Ministry of Health and Population including personal health and safety, COVID – 19 and other communicable diseases protocols.

Specific Requirements

The consulting firm shall meet the following specific requirements:

- Experience in earthquake resistant structural design/supervision of public buildings like schools/ hospitals/ commercial/ office buildings in at least two (2) numbers of different projects of each contract value of at least NPR 1 million within last 5 years. More projects will be preferable.
- Experience in conducting detailed vulnerability assessment/ retrofit design of at least 2 numbers of buildings. More number will be preferable.
- Work experience in donor (ADB/World bank) funded projects shall be preferable



Key Personnel

The team shall consist of experts with relevant knowledge and experience in the similar fields and assignment. The staffing requirements of key personnel for this assignment shall include a minimum of the following positions:



S N	Personne l	Indicative		Education/Qualificat ion	Experience	Indicative responsibilities
		No.	Person /months /days			
Key Experts:						
1	Team Leader	1	5 months full time	Minimum master's degree in Civil Engineering (majoring Structural/earthquake engineering)	15 years of general experience and 10 years of experience in the structural / earthquake engineering field after Masters' degree.	Overall coordination with the survey team, regular data validation and correction of uploaded data
2	Structural Engineer	5	5 months full time	Minimum master's degree in Civil Engineering (majoring Structural/earthquake engineering)	7 years of general experience and 5 years of experience in the structural / earthquake engineering field after Masters' degree.	Lead the assessment team in each facility



S N	Personne l	Indicative		Education/Qualificat ion	Experience	Indicative responsibilities
		No.	Person /months /days			
3	DRM Expert	1	1 months intermitte nt	Master's Degree in Disaster Management or relevant field	10 years of general experience and 7 years of experience in the field of DRM.	Carry out the analysis of the accessed data, orient the assessment team for the assessment related to different disaster
Non-key Experts:						
1	Civil Engineers	5	5 months full time	Bachelor's Degree in civil engineering	3 years of general experience and 2 years of experience in the field of building structures, assessment and retrofit design	Conduct assessment under the direct supervision of civil engineer, carry out tests, Cost estimation, BOQ and specifications



S N	Personne l	Indicative		Education/Qualificat ion	Experience	Indicative responsibilities
		No.	Person /months /days			
2	Civil Sub- Engineer /Architect/ t/	5	5 months full time	Diploma in Civil Engineering or Architecture	3 years of general experience and 2 years of experience in the field of building structures, assessment and retrofit design	Preparation of as-built drawing, carry out assessment, NDTs, Development of Drawings
3	Office Support Staff	1	5	Diploma or 10+2 education	-	Office support

7. Selection Criteria:

The consulting firm will be selected in accordance with The World Bank's Procurement Regulations for IPF Borrowers: Procurement in Investment Project Financing Goods, Works, Non-Consulting and Consulting Services, July 2016 (Revised November 2017 and August 2018) Section VII: Approved Selection Methods of Consulting Services: **Consultants' Qualification Based Selection (QBS) method.**

Annex A: Details of the Facilities to be accessed

S.N.	Facility Name	District	No. of Buildings
1	मदेश स्वास्थ्य विज्ञान प्रतिष्ठान प्रादेशिक अस्पताल, जनकपुरधाम	Dhanusha	4
2	राजकीय संस्कृत मा. बि.	Mahottari	4
3	Laxmi Narayan Palace	Mahottari	2
4	Shree Mahadev Janata Namunaa Ma. Vi.	Sarlahi	3
5	Hariwan Health Post	Sarlahi	1
6	Shree Jana Jagriti Ma. Vi.	Sarlahi	1
7	Bhanu Jana Ma vi	Taplegunj	6
8	Shree Aadarsha Balika Ma. Vi.	Biratnagar	4
Total			25

Note: The blocks separated by means of expansion joints will