



Terms of Reference (TOR)

For Consulting Services of Geologist

Contract: NDRRMA/DRRSE/01-2077/78	
Project	Disaster Resilient Reconstruction Project
Expertise: Individual Consultant (IC)	

1. BACKGROUND:

The National Disaster Risk Reduction and Management Authority (NDRRMA) has received funding from the Government of Nepal “to restore affected houses with multi-hazard resistant core housing units in targeted areas and enhance Nepal’s ability to improve long-term disaster resilience”. The project aims to strengthen the capacity of NDRRMA to meet Nepal’s need for multi hazard risk reduction and management.

Of all disasters reported in Nepal, flood, landslides, inundation and fire are most devastating in terms of number of deaths that occur and damage they cause. Due to fragile geological condition, steep topography and concentrated precipitation fueled by climate change and unplanned development activities, the frequency of extreme events such as floods and Inundation is expected to increase. There is an urgent need to build resilient communities, infrastructures and houses against disasters. NDRRMA has mandate from GoN to manage and reduce the risk of such disasters.

The NDRRMA plans to hire 5 (five) individual consultant(s) as Consultant Geologists to be based at NDRRMA for ensuring safety of the housing and settlements are safe from landslide and debris flow risks and that the sites achieve minimum requirements including technical guidelines, standard procedure of NDRRMA for the disaster resilient reconstruction.

2.0 OBJECTIVES OF THE CONSULTANT’S SERVICE

2.1 General

The main objective of obtaining services from the Consultant Geologists is to assist the NDRRMA to carry out multi-hazard risk assessments and undertake detailed landslide *cum* watershed survey to identify the suitability of land for safe reconstruction. Input from the consultant Geologist would ensure the adoption of an acceptable level of risk for proposed settlements in disaster-affected areas.

The assessment for sites impacted by disasters and proposed sites for resettlement will be undertaken in accordance with NDRRMA’s Multi-Hazard Risk Assessment methodology to ensure a consistent approach.



2.2 Specific

Specific objectives of the assignment are to:

- a) Access risk from geo-hazards in locations affected by disasters in assigned municipalities and districts;
- b) Complete geo-hazard risk assessment for houses and settlements proposed for reconstruction and or resettlement;
- c) Prepare site survey and assessment reports with recommendations on the significance of the hazards, the elements of the community that are at risks and or propose further studies or investigations required and risk reduction /intervention measures that are considered feasible and cost effective;
- d) Support in undertaking risk sensitive land use plan for the selected municipalities; and
- e) Support the Municipal Government in preparing integrated settlement plans.

3.0. SCOPE OF THE CONSULTANT'S SERVICE

The Consultant Engineering Geologist will develop a comprehensive geo-hazard risk assessment and Risk Sensitive Land Use Map for the Integrated Settlement Areas, Resettlement Areas if any and the areas that are at risk from major hazards like floods, landslides, earthquakes, and others and according to the priority of the local levels.

The main objective of the task is to carry out the geo-hazard assessment and mapping which will guide to the development of Risk Sensitive Land Use Map as per available guidelines and accepted methods. Risk Sensitive Land Use Map will be used in further Resettlement Projects, Integrated Development Plan, Land Development Activities, Design and Layout of Infrastructures and other activities which will lead us towards the Resilient Community. The tasks/ responsibilities of the Hazard Assessment and Mapping Expert include, but are not limited to:

3.1 Hazard Assessment and Mapping

- (i) Undertake detailed geological investigation (local and regional geological settings including engineering geomorphological mapping) along with geo-hazard risk assessments for the sites recommended by the municipality and or district(s);
- (ii) Identify likely disasters risks that could affect the proposed area of study;
- (iii) Identify occurrence and potential impact of geohazard on people and property in the proposed area;
- (iv) Catalogue historic hazard events. This includes the physical characteristics of hazards and the determination of various descriptors including sources of threats, magnitude, frequency, duration, probability, area of impact, intensity etc.;
- (v) Identify most probable scenarios for the given timeframe with the use of historic data of disaster events – their recurrence and frequency;
- (vi) Carry out modelling/simulations of risk scenarios by accepted methods and guidelines;



- (vii) Prepare zonation maps of surrounding areas within the area of interest with respect to various natural hazards. The zonation should justify the historic data, satellite images, aerial photography, etc.;
- (viii) Preparation of reports with respect to various hazards along with census data for value addition as disaster management tools;
- (ix) The outputs such as hazard scenarios and hazard intensity map will be validated through both qualitative or quantitative method along with series of discussions with key national stakeholders including NDRRMA, Department of Mines and Geology, Related department of universities, National Experts and other experts from Government bodies.

3.2 Development of Risk Sensitive Land Use Map

- (i) Develop Risk Sensitive Land Use Map of interest area in coordination with the Urban Planner and Local Government.
- (ii) Facilitate Urban Planner and Engineers to prepare the Integrated Development Plan for the Local Government
- (iii) Facilitate Local Government for the application of Risk Sensitive Land Use Map in other program/ activities like Resettlement Programs, Land Development Activities, Design and Layout of Infrastructures and others.

4.0 QUALIFICATION AND EXPERIENCE

4.1 Qualification

Master's Degree in Geology, Applied Geology, Engineering Geology, Hydrogeology, Geochemistry, Geophysics, or related field and discipline. Geological Engineering and Geotechnical engineering will be preferred.

4.2 Experience

The consultant shall have at least (5) five years general working experience with at least (3) three years specific experience in the area of hazard and disaster studies and geological assessment related work with working experience in the reconstruction projects will be preferred. He/She should have good knowledge of ArcGIS, ILWIS and QGIS.

5.0 REMUNERATION AND LOGISTIC SUPPORT TO THE CONSULTANT

The consultant shall be provided the remuneration and other logistic support as below:

- Total cost of the proposed consultancy services, that includes remuneration (eight months) out-of-pocket expenditure, travel and per-diem including contingency is estimated to be NPR 1,506, 727.00 for each individual consultant.
- The Consultant shall be paid by NDRRMA every month on the submission of his/her invoice and time-sheet with the obligatory reports as mentioned in subsequent Para"6"; certified by authorized officer.
- Working space shall be provided at the NDRRMA office premises with office furniture (table, chair and cabinet), electricity, internet and printing facilities during office hours



- The consultants shall have his/her own laptop for working.

6.0 CONSULTANT'S REPORTING OBLIGATIONS

The Consultant will be required to submit work-plan in the beginning of month and the report of service rendered within the framework of work-plan and duties and responsibilities (as mentioned in the section Task and Responsibilities) at the end of the month. S/he will also submit the technical papers or documents that have been prepared as part of study in context of his assigned duties and responsibilities. S/he is required to deliver a presentation and provide hands out at the trainings conducted for engineers by the project.

- Site visit reports,
- Monthly Progress Report, and
- Other reports as asked by NDRRMA and its designated officials.

Note: Electronic copy of each report shall also have to be submitted.

7.0 DURATION OF CONSULTANT'S SERVICE

- The duration of the Consultant's services shall be for approximately eight months.
- The services shall start tentatively from 1 November 2021. The contract may be terminated if the office does not need the consultant's service due to the office's internal management or unsatisfactory performance of the consultants as evaluated by the NDRRMA and or its authorized agency.
- This is a full time job so the consultant is not allowed to undertake any other professional assignment during this period.
- If the consultant intends to leave the services from the project; he/she shall mandatorily prior inform in writing two (2) months before to the NDRRMA.

8.0 DUTY STATION

The consultant shall perform works for NDRRMA with frequent visit to municipalities and districts and site as per requirement with prior approval of concerned official.

9.0 SELECTION OF THE CONSULTANT

The selection is based on the approved evaluation criteria based on Public procurement Act, 2063 and Regulation 2064 and its amendments.

10.0 TAXATION



The Consultant shall be fully responsible for all taxes imposed by Government of Nepal. The Consultant must be registered in the Value Added Tax (VAT) after the contract agreement signed.

11.0 AGREEMENT

The Consultant shall be required to enter into an agreement with the NDRRMA on time based contract.