Terms of Reference

Consultancy: Design Consultancy Services for Disaster Resilient Household and Community-Level Grain Storage Facilities
Project Title: Resilience, Adaptation and Inclusion in Nepal (RAIN)
Location: Madhesh and Lumbini Province
Duration: 15 working days
Reporting to: Community Self-Reliance Centre (CSRC)
Type: Short-term consultancy

1. Background

The RAIN (Resilience, Adaptation and Inclusion in Nepal) programme, funded by the Foreign, Commonwealth and Development Office (FCDO), aims to strengthen disaster and climate resilience in Nepal's most hazard-prone regions. A key focus is community resilience against climate change induced hazards like floods, heat waves, cold waves, droughts, and fire.

RAIN aims to reach the most vulnerable and marginalised communities at risk of multi hazards in Madhesh and Lumbini provinces. To achieve this, RAIN will use evidence-based approaches to tailor implementation for building resilience in a systemic way, centred around localisation, inclusion and leveraging fiscal resources to contribute to climate resilience across differing contexts in the targeted provinces. RAIN's two intermediate outcomes will focus on 1) enhancing community resilience, 2) strengthening governmental systems in early warning (EW), early action (EA) and adaptation. RAIN supports the attainment of NDRRMA's strategic goals to strengthen Early Action, develop multi-hazard EWS and catalyse research and innovation to develop EA plans as per National Disaster Risk Financing Strategy (2020), DRR Policy (2018) and National Strategic Plan for Action (2018-2030).

RAIN, funded by the Foreign, Commonwealth and Development Office (FCDO), is led by People in Need (PIN), co-led by DanChurchAid (DCA), and implemented by a consortium of partners, including Local Initiatives for Biodiversity, Research and Development (LI-BIRD), Community Self-Reliance Centre (CSRC), Youth Innovation Lab (YI-Lab), and Prerana, with technical support from the Red Cross Red Crescent Climate Centre (RCCC) and the United Kingdom Meteorological Office (UK Met Office).

2. Objectives of the Assignment

The grain storage facility is aimed to enhance food security and resilience against climatic hazards in Nepal's vulnerable regions. The project aims to develop two distinct types of grain storage structures: one designed for individual households and another for communal use, ensuring accessibility and usability across different demographics while maintaining focus on disaster risk reduction.

The primary objective is to design cost-effective, sustainable, and disaster-resilient grain storage facilities that comply with:

- Multiple-hazard safety standards (earthquakes, floods, droughts, heatwaves, cold waves, and fire)
- Locally available material utilization and replicability requirements at Madhesh and plain areas of Lumbini

3. Scope of Work

The consulting firm will undertake the following activities:

3.1 Site Assessment and Community Engagement

Conduct comprehensive site visits to:

- Understand Local hazard profiles and risk patterns and community needs

- Understand local practices of grain storage, capacity needs and accessibility needs
- Assess locally available materials and construction practices
- Explore ideas on possible typical locations for grain storage.

3.2 Design Development

In coordination with CSRC and PIN, prepare 2 separate designs:

1. Household-level storage facility: Individual family grain storage structure, suggested size, required materials and cost
2. Community-level storage facility: Shared community grain storage structure, suggested size, required materials and cost

Ensure design principles focusing on:

- Economy: Lowest possible construction cost, appropriate for Nepal's Terai region. O
- Technical soundness: Engineering integrity and functionality with simple and practical design
- Locally available materials: Maximum use of either locally available material or materials easily procured locally
- Replicability: Easy replication across different locations and geographies in Nepal – Primarily in Lumbini and Madhesh Province. Optimisation of cost should be such that household level design can be replicated by low-income households in at –risk areas.
- Sustainability: Long-term durability and low maintenance

3.3 Hazard Resilience Integration

- Resilient against:
  - Floods including flash floods, inundation, and water damage
  - Drought conditions
  - Extreme temperature events (heatwaves and cold waves)
  - Fire hazards
  - Seismic activities (earthquake-resistant per NBC standards)

3.4 Documentation and Compliance

- Deliver comprehensive technical documentation including:
  - Architectural and structural drawings (with 3D)
  - Structural Analysis Report
  - Bill of Quantities (BoQ), detailed estimate and Technical Specifications
  - Material specifications with local sourcing details
  - Brief construction guideline/manual

4. Deliverables

Timeline	Deliverable	Content
Within 1 day	Work Plan	Work plan including timeline
Within 5 days	Field Visit	Brief Learning Document, post field visit with presentation on conceptual design
Within 10 days	Draft Design Package	Draft design and technical drawing set, draft BoQs, draft detailed estimate
Within 15 days	Final Design Package	Revised and validated drawings, Structural Analysis report, final BoQs, final detailed estimate, Brief construction guideline/manual

5. Minimum Eligibility Criteria

The consulting firm must demonstrate:

1. Legal Requirements:
    - Valid firm registration in Nepal
    - Current VAT/PAN certificates
    - Tax clearance certificates
2. Technical Requirements:
    - Minimum 5 years in building design experience
    - Experience in climate-sensitive construction
    - Knowledge of local materials and construction practices
    - Understanding of National Building Code (NBC)
    - Familiarity with disaster risk reduction principles
    - Experience with development sector requirements

6. Minimum Technical Team Composition

Role	Qualification	Experience Requirement
Structural Engineer	Master's Degree in Structural Engineering or equivalent	Minimum 10 years in seismic and multi-hazard design per NBC standards
Civil Engineer	Bachelor's Degree in Civil Engineering	Minimum 3 years in infrastructure resilience or related field

7. Payment Modality

Payment structure based on deliverable submission and approval:

- 25% upon signing of contract and submission of work plan
- 75% upon submission of final design package and approval of final deliverables

8. Evaluation Criteria

Proposals will be assessed using the following weightage:

Criteria	**Weight**
Technical approach and methodology	15%
Team experience in similar assignments	20%
Qualifications and suitability of team personnel	20%
Financial proposal	45%

The evaluation will prioritize candidates that demonstrate an ability to produce designs balancing cost-effectiveness, technical soundness, locally available material integration, and replicability potential across Nepal's diverse geographic and climatic conditions, especially focusing on Lumbini and Madhesh Province.