

Uttarakhand State Disaster Management Authority

TENDER DOCUMENT

Uttarakhand has geographical area of 53,483 sq km; 93 percent of which is mountainous and 64 percent is under forest cover. 27th state of the Republic of India, Uttarakhand has two divisions; Garhwal and Kumaun. The state has 13 districts of which 07 (Pauri Garhwal, Tehri Garhwal, Chamoli, Haridwar, Dehradun, Uttarkashi, Rudraprayag) are in Garhwal while the remaining 06 (Almora, Bageshwar, Champawat, Nainital, Udham Singh Nagar, Pithoragarh) are in Kumaun.

Geo – tectonic set up of the region together with its evolutionary history, geomorphology and meteorological characteristics make Uttarakhand prone to a number of natural hazards. Besides earthquakes the area is vulnerable to and frequently devastated by landslides, cloudbursts, flash floods, floods, avalanches, droughts, lightening, cold waves and hailstorms.

Due to the ongoing tectonic movements the region has accumulated enormous strain that makes it susceptible to seismic tremors. The state falls in Zone IV and Zone V of Earthquake Zonation Map of India. Pithoragarh, Bageshwar, Chamoli and Rudraprayag districts together with some areas of Almora, Champawat, Tehri, Uttarkashi and Pauri district fall in Zone V while the remaining area falls in Zone IV. In the past the State has witnessed two major earthquakes (Uttarkashi 1991 and Chamoli 1999).

Buildings were traditionally constructed in the region using locally available stone and timber but with the passage of time people have switched to brick and cement construction. This change in building material was however not accompanied by capacity building of the masons. The demand however forced them to construct with the new material. This adds to the vulnerability of building stock of the region. As per the Vulnerability Atlas of India, around 56 percent houses in Uttarakhand are constructed using mud, un-burnt bricks and stone walls. This is enough to highlight structural vulnerability of the built environment, particularly to seismic tremors to which the state is highly vulnerable.

In order to address the issue of seismic vulnerability of the region the State Disaster Management Authority (SDMA) intends to engage suitably experienced firms/agencies who could organize

hands on and practically useful training programs on earthquake safe construction for practicing masons.

State Disaster Management Authority (SDMA), Uttarakhand therefore invites technical and financial bids from interested firms for conducting 07 days training programs on earthquake safe construction for practicing masons.

Scope of work

1. Selected firm would have to organize the training program at any place so identified by the SDMA in the group of districts for which the firm is selected.
2. The training program is to be organized for practicing masons who might be illiterate and lacking communication skills. It is therefore necessary that the training program be organized hands on and in Hindi. Knowledge of the local dialects (Garhwali and Kumaoni) would be an added advantage.
3. The training program shall be of 07 days duration and would have to be organized as per the broad outline and schedule given below. Please note that the schedule is indicative and the firms are free to improve upon and make it more practical and hands on.

First Day		
Sl. No.	Particulars	Time
1.	Registration of Participants	1000– 1030 hrs
2.	Inauguration	1030 – 1100 hrs
	Tea break	1100 - 1130 hrs
3.	Overview of earthquake proneness of Uttarakhand with particular emphasis on the vulnerability of the district concerned.	1130 - 1300 hrs
	Lunch break	1300 - 1400 hrs
4.	Earthquake safe construction and its importance.	1400 – 1500 hrs
5.	Site selection and layout for the Demo Unit	1500 - 1600 hrs
	Tea break	1600 – 1615 hrs
6.	Excavation and Laying of PCC in foundation	1615 - 1800 hrs

Second Day

1.	Precautions during the building construction in hilly terrains, including land selection for stability of structure.	1000 – 1100 hrs
2.	Detail of foundation of structures and overview of deferent type of foundations.	1100 – 1200 hrs
	Tea break	1200 - 1230 hrs
3.	Type of stones and materials to be used during laying of foundation	1230 – 1330 hrs
	Lunch	1330 – 1430 hrs
4.	Type of stones and materials to be used during laying of foundation	1430 – 1530 hrs
5.	Completion of foundation work up to plinth level and providing plinth band (Tea break in-between)	1530 – 1800 hrs
Third Day		
1.	Role of reinforcement in structure and how it helps in stability of the structure	1000 – 1100 hrs
2.	Diagram's and Picture Demonstration of load bearing structure.	1100 – 1200 hrs
	Tea break	1200 – 1230 hrs
3.	Role of reinforcement for reduction of tension and compression in structure.	1230 – 1330 hrs
	Lunch	1330 – 1430 hrs
4.	Role of reinforcement for reduction of tension and compression in structure.	1430 – 1530 hrs
5.	construction of brick wall up to sill level and providing sill band (Tea break in-between)	1530 – 1800 hrs
Forth Day		
1.	Detail of reinforcement in beam and column and overview in different type of reinforcement used in different earthquake zones	1000 – 1100 hrs
2.	Basic design for earthquake.	1100 – 1200 hrs
	Tea break	1200 – 1230 hrs
3.	Proper practices in concreting and material choice	1230 – 1400 hrs
	Lunch	1400 – 1500 hrs
4.	Construction of brick wall up to doorlevel and providing	1500 – 1800 hrs

	doorband (Tea break in-between)	
Fifth Day		
1.	Film (TIFAC) on earthquake resistant's structure shown to participants	1000 – 1100 hrs
2.	Work of District Disaster Emergence Operation Centre and Authority.	1100 – 1200 hrs
	Tea break	1200 – 1230 hrs
3.	Community Based Disaster Management	1230 – 1330 hrs
	Lunch	1330 – 1430 hrs
4.	Construction of brick wall up to slab level	1430 – 1800 hrs
Sixth Day		
1.	Film (DandiKanthiki Goad ma) on earthquake resistant's structure shown to participants	1000 – 1100 hrs
2.	Finishing the brick wall	1100 – 1300 hrs
	Lunch	1300 – 1400 hrs
3.	Providing shuttering for the slab and Bar binding (Tea break in-between)	1400 – 1530 hrs
	Tea break	1530 – 1600 hrs
4.	Concreting of slab	1600 – 1700 hrs
Seventh Day		
1.	Revision for six day training	1000 – 1130 hrs
	Tea break	1130 – 1200 hrs
2.	Examination	1200 - 1300 hrs
	Lunch	1300 - 1400 hrs
3.	Feed back of Training Programme (Tea break in-between)	1400 – 1600 hrs
	Certificate distribution and valediction	1600 - 1700 hrs

4. One qualified civil engineer with experience and expertise in conducting such program shall have to be deputed full time during the course of the training program along with other associates, as required. Bio-data of the civil engineer

with specific details of similar training programs (duration, place and client) organized by him/her should accompany the technical bid.

5. The training is intended to provide practical experience to the participants and therefore a demonstration unit of 10 X 10 feet incorporating all important earthquake safety features (sill, plinth and lintel and gable bands, corner, door and window reinforcement) has to be constructed during the training by the participants. The demonstration unit would have a door measuring 6 ½ X 2 ½ feet and a window measuring 3 X 3 feet.
6. The demonstration unit would have to be painted and should visibly show all earthquake safety measures that would have to be appropriately labeled in Hindi.
7. The demonstration unit complete in all respects would have to be handed over to the agency so identified by the SDMA and certificate with regard to satisfactory completion and handing over of the same would have to be provided along with the final training report.
8. Material, reinforcement and all equipment for the conduct of training and construction of the demonstration unit, complete in all respects, have to be arranged and mobilized by the firm engaged for the training program.
9. Each training program would have 30 practicing masons that would be identified by the SDMA or agency so designated by SDMA.
10. The masons participating in the training program be paid honorarium at the rate of Rs. 350 per day as compensation for their loss of wages. This amount (Rs. 350 X 30 X 7 = Rs. 73500) has to be paid by the firm engaged for the training program to the participating masons and receipt to this regard has to be submitted along with the final training report.
11. Tea and brief refreshment has to be provided to the participants twice daily.
12. The participants would have to be provided stationary and reading material. Training / reading material or manual prepared earlier (if any) should accompany the technical bid.
13. The participants would have to be provided certificate of successful completion of training. The format of the same would be provided by the SDMA.

14. Soft and hard copy of the training report would have to be prepared and submitted to SDMA after each training program. Beside other things this should have complete details of the participants. Digital photographs of all the participants would have to be submitted separately.

Shortlisting criteria

Interested firm should provide information demonstrating that they have the relevant experience in disaster management and masons training on earthquake safe construction of at least 07 days duration. The interested firm is expected to submit technical and financial bids in separate sealed envelopes for the group of districts that they intend to bid for.

The technical bid should include the profile of organization, experience including details of similar training programs organized previously by them specifying exact details of the duration, place and client together with human resource availability.

Apart from others that the SDMA may decide, the shortlisting criteria would include:

1. The firm must be a registered entity. Proof of the same be provided.
2. The firm should be at least two years old. Audited balance sheets of previous two years signed by authorized signatory of the firm should be provided as proof thereof.
3. The firm should have prior proven experience in providing training on earthquake safe construction to practicing masons. Number of such trainings organized previously with the details of duration, place and client should be provided.
4. The firm should demonstrate that they have capacity of conducting training program on earthquake safe construction. The firm should have on its rolls civil engineers with experience of organizing training programs for practicing masons on earthquake safe construction. Bio data clearly highlighting the required experience of the civil engineer should be provided.
6. The firm should have experience of handling projects having financial contribution/ financial grants/ financial assistance of at least Rs. 25 lakh in any year in the previous three years.
7. Experience of working in the field of disaster management and association with State/District Disaster Management Authority would be an added advantage.

Technical bid

Technical bid of the firm must reflect the firm's competence to successfully organize training programs for the masons and must contain the following:

1. Introductory letter on letter head (with complete contact details – name of contact person, mailing address, telephone, fax, email etc) explaining how the firm is best to deliver the task.
2. Organizational profile.
3. Two years annual report (FY 2014-15 and FY 2015-16) and 02 years audited financial statement duly signed and attested by authorized signatory.
4. Short note on the similar projects (masons training program on earthquake safe construction) implemented by the firm clearly giving details of the duration, place and client.
5. Details of state specific experience with knowledge of local dialects with the resource persons of the firm that would be an added advantage in effectively communicating with masons.
6. Details of the manpower in the rolls of the firm together with their biodata clearly depicting their experience of organizing similar programs.
7. The bid should contain sufficient supporting document to substantiate the claim of the NGO/firm towards their qualification as per the shortlisting criteria.
8. All the documents must be signed by authorised signatory.
9. Certified copy of Awards/Appreciation Certificates by State Government/Central Government/Multilateral Funding Agency (if any).

Financial bid:

For effective management and speedy implementation of the proposed training programs on earthquake safe construction for practicing masons the state is divided in four group of districts:

- (a) Dehradun, Haridwar, Tehri and Uttarkashi
- (b) Rudraprayag, Chamoli and Pauri
- (c) Bageshwar, Pithoragarh and Champawat
- (d) Almora, Nainital and Udham Singh Nagar

For effective and time bound delivery SDMA intends to identify separate firm for every group of districts. A firm can therefore bid only for one group and application of the one bidding for more than one group would be expressly disqualified.

The sealed envelope containing the technical and financial bids should clearly indicate the group for which the firm intends to bid.

The interested firms can submit their technical and financial proposals sealed in separate envelopes clearly indicating the group of districts for which they intend to bid to Executive Director, Disaster Mitigation and Management Centre, Uttarakhand Secretariat, 4 Subhash Road, Dehradun – 248001 before 1200 hrs on 8th June, 2017. These would be opened the same day at 1500 hrs in the presence of the representatives of the firms.

Executive Director
Disaster Mitigation and Management Centre (DMMC)