Mason Post Training
Follow Up Report
November 2017
Earthquake Response Operation
Nepal Red Cross Society
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1. Executive summary

A total of 146 events of mason training were organized from May to September 2016 to train masons in the Earthquake Response Operation (ERO) districts. Altogether 4199 masons across 14 earthquake affected districts have received the training from Nepal Red Cross Society (NRCS).

In between July to September 2016, a study was carried out to understand engagement and availability of the trained masons. The findings were useful for estimating ratio of houses to be constructed and required number of masons in the program area. With the initiation of Nepal Reconstruction Authority (NRA) and partner organizations to provide the first installment of house rebuilding grants in October 2017, construction process has been speeding up in the community. Therefore, the need of follow up initiation was realized and an in-depth survey was conducted to comprehend status of appropriate implementation of skills and supporting build back safer houses by the trained masons.

2. Introduction

In the year 2015, Nepal has been severely stroked by catastrophic earthquake of 7.8 magnitudes on April 25 and similar intensity of tremor on May 12 followed by aftershocks that smashed many infrastructures including houses, schools, health facilities, water schemes and directly affected the livelihood of individuals. Nepal government statistics paint a graphic picture: 8,856 people killed, 22,309 injured, more than 1.1 million families affected and 700,000 families displaced. Almost 600,000 homes were destroyed and a further 280,000 damaged. More than 30,000 classrooms were destroyed or damaged.

By considering the need of people, NRCS developed integrated recovery framework comprising four plus one components (Water, Sanitation and Hygiene; Shelter; Livelihood; Health and Institutional Capacity Building). The integrated recovery program has been implementing in 14 earthquake affected districts since January 2017 based on ‘Build Back Safer’ goal. Shelter as one of the component included 7 days training for traditionally working masons to support in earthquake resistant building construction.

3. Objectives of the study

- To assess extent of post-training engagement;
- To check masons’ availability;
- To assess whether the trained masons have been using earthquake resistant shelter construction skills appropriately;
- To examine impact of the training on masons’ livelihood.

4. Geographical coverage - Earthquake affected 14 districts

1. Bhaktapur
2. Dhading
3. Dolakha
4. Gorkha
5. Kathmandu
6. Kavre
7. Lalitpur
8. Makawanpur
9. Nuwakot
10. Okhaldhunga
11. Ramechhap
12. Rasuwa
13. Sindhu
14. Sindupalchok

5. Methodology

5.1 Methods
Census survey was employed for post training follow. The information was collected through;
- Face to face interview, or telephone interview by social mobilizers.
- Use of rapid mobile phone technique or web-form to collect data.

5.2 Tool - Survey Questionnaire using KoBo Collect, a mobile application to record data.
Tele orientation or face to face orientation on survey tool was provided to district Planning, Monitoring, Evaluation and Reporting (PMER) officers by NRCS headquarters PMER-IM team. Following the orientation, district PMER officers provided orientation to social mobilizers.

5.3 Survey period - The survey was conducted in phased manner from May to September 2017 across the 14 districts.

6. Key findings

- About 89% (n=2710) of respondents were engaged in construction work after receiving mason training where 11% were not engaged as mason work. Significant increment in days per month have been observed in involvement of masons after the training.
- Out of 2710 respondents working as mason, majority were engaged in individual shelter construction (63%) followed by public infrastructure construction (13.8%) and other construction work such as; toilets, drinking water schemes, irrigation canal linings etc (0.6%). Whereas, remaining (0.3%) masons were engaged in all three types of construction.
- Among working masons, 85% of them applied the earthquake resistant skill in all construction work and 15% of them applied the skill in some of their construction work.
- About 54% (n=1462) of working masons always applied safety measures and 26% of them used sometime during the construction work. Whereas, remaining 20% (n=539) masons said the measures were unavailable, uncomfortable to use and other reasons.
- A total of 2687 respondents have further interest to work as mason. Among which 39% of them were ready to relocate anywhere, 32% of them shown interest to work within neighborhood, 16% of them were interested only for own house construction and 13% of them said they can relocate only within the adjoining village development committees/wards.
- About 96% (n=2600) of working masons shared build back safer information with at least one category of family member and/or community people and/or semi-skilled mason and/or other.
- Out of 3054 respondents, 80% of them said that perception of the community towards them have been positively changed in terms of wages, trust and asking about earthquake resistant construction techniques after the training.
7. Data Quality and Limitation of study

The data quality is fairly good and predominantly in line with key subject matter. It was checked by adopting following strategy.

<table>
<thead>
<tr>
<th>S.N.</th>
<th>Activities</th>
<th>Responsible persons</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>General observation during face to face interview</td>
<td>PMER officer or other staff coordinated by PMER officer</td>
</tr>
<tr>
<td>2</td>
<td>Cross verification of data with random telephone conversation with the masons who have been interviewed by SMs/volunteers</td>
<td>PMER officer or other staff coordinated by PMER officer</td>
</tr>
<tr>
<td>3</td>
<td>Online data quality monitoring was carried out and feedback was made available to district team</td>
<td>IM Officer from HQs</td>
</tr>
</tbody>
</table>

In order to substantiate the survey findings, initial plan was to conduct Focus Group Discussion (FGD) and Key Informant Interview (KII) along with review of documents- inspection form of National Reconstruction Authority and shelter updates of Nepal Red Cross Society, but due to limited timeframe these methods were not implemented on the survey period. Moreover, the initial plan had emphasized face to face interview to collect data however, about 17% of the respondents were interviewed through phone call and 8% of interviews were taken from other sources (with family members and colleagues) which has created some sort of doubt in credibility of the information.

The survey was carried out through mobile technology - KoBo Collect, by deployment of social mobilizers. The adopted technology was newcome to the social mobilizers which had caused some errors on data entry. Consequently, data on 89 interview questionnaires were found to be blank and incomplete. There was not uniformity among social mobilizers on understanding of survey questionnaire as the orientation programs were conducted separately as per districts. Besides, discrepancy was observed in the responses captured for respondents’ daily wages of both timeframe; before and after the training so its convenient findings were not obtained.

8. Survey findings

8.1 Respondents

Among 4199 masons trained by Nepal Red Cross Society across 14 districts, 3143 masons were interviewed by September 2016, where data on 89 interview questionnaires found to be blank and incomplete.

8.2 Types of interview

Majority of respondents were interviewed through face to face (75%), whereas 17% and 8% of them were interviewed through phone call and other source (with family members and colleagues) respectively.

8.3 Number of respondents against total masons trained

Out of total 4199 masons trained by NRCS, about 75% (n=3143) were available for interview, whereas remaining 25% (n=1056) were not available for the interview during the survey period. Out of 3143 masons available for interview, 3054 interview questionnaires have complete data which is pertinent for the analysis.

Number of masons interviewed against total masons trained was found highest in Bhaktapur district (98%) whereas, it is found least in Sindupalchok district (32%).
8.4 Post training engagement status of respondents

Among 3054 respondents, about 89% of them reported that they are working as mason after receiving mason training whereas only 11% said they are not engaging as mason. The figure (right) shows the distribution of post training engagement of masons by districts.

8.5 Involvement of respondents by types of infrastructure construction

Majority of the trained masons were found to be engaged in individual shelter construction followed by construction of public infrastructure and few of them said their involvement in other infrastructure such as; toilets, drinking water scheme, irrigation canal lining, gabion work, road and wall construction. Out of 2710 respondents working as mason after the training, 63% of respondents said their involvement in individual shelter only, 13.8% reported in public infrastructure only and remaining 0.6% said in “other” infrastructure construction.

Further, 0.3% (n=9) of masons were engaged in all infrastructures building including shelter construction, 20.8% reported their involvement in construction of individual shelter along with public infrastructure, 1.4% said their involvement on individual shelter as well as “Other” infrastructure construction and only 0.1% reported their involvement in public infrastructure and “Other” infrastructure construction.

8.6 Reason behind not working as mason

Among 344 respondents who were not working as mason after receiving the training, 28% of the respondents were no longer interested in mason work, 19% said that they did not get the job for long time whereas, 8% of them have already left the country for foreign employment.

Whereas, majority of them (46%) responded “Other” as reason behind not working as mason. While analyzing the response, it was found that greater number of respondents were busy in other than mason work, some of them were facing health problems while remaining response was recorded repeatedly as standard responses (‘Already left the country’, ‘Did not get a job for a long time’ and ‘No longer interested’).
8.7 Status of earthquake resistant skill implemented by respondents

Almost all respondents who were engaged in construction work, said that they have somehow applied earthquake resistant skill. Out of 2710 masons, 85% of them have used the skill in all construction work whereas about 15% have applied the skill in some of their works. Only very few masons (9) said they have not practiced the skill due to unwillingness of owners and unavailability of resources.

8.8 Practice of safety measures during work

Among working masons, about 54% of them said they have applied safety measures like helmet, gloves, goggles etc during construction work, 26% cited they have used safety tools sometime during the work and remaining 20% were not using at all.

8.9 Reason behind not using safety measures

Out of 539 masons who were not using safety measures during construction work, 68% of them said the measures were uncomfortable to use, 28% said due to unavailability of safety tools and 4% stated “Other” for the reasons behind not using the measures.

8.10 No. of days in a month working as mason - Before and after the training

Among the relevant data (2675 for before training and 2669 for after training), significant increment in days per month have been observed in involvement of respondents as mason after the training. The inclination of no. of days in a month working as mason from the pertinent data has been shown in the following table.

<table>
<thead>
<tr>
<th>Working days</th>
<th>Before training</th>
<th>After training</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;1 or (blank)</td>
<td>5%</td>
<td>0%</td>
</tr>
<tr>
<td>1-5</td>
<td>6%</td>
<td>1%</td>
</tr>
<tr>
<td>6-10</td>
<td>24%</td>
<td>5%</td>
</tr>
<tr>
<td>11-15</td>
<td>28%</td>
<td>16%</td>
</tr>
<tr>
<td>16-20</td>
<td>21%</td>
<td>27%</td>
</tr>
<tr>
<td>21-25</td>
<td>12%</td>
<td>33%</td>
</tr>
<tr>
<td>26-30</td>
<td>4%</td>
<td>18%</td>
</tr>
</tbody>
</table>
8.11 Build back safer information shared by respondents after mason training

Out of 2710 masons who have been involved in masonry work, majority of them (96%) said that they have shared build back safer information whereas few of them (4%) reported that they haven't shared the information learned from mason training.

8.12 Build back safer information shared by respondents after mason training

Majority of the respondents (96%) have shared the build back safer information with at least one category - family member and/or community people and/or semi-skilled mason and/or other).

Out of 2600 respondents who reported that they have shared build back safer information with at least one category, 29.23% of them said they have disseminated the information with family member along with community people and semi-skilled mason, 23.77% shared with community people and semi-skilled mason, 14% shared with community people only, 13.5% shared with semi-skilled mason only and 11.19% disseminated the information with family member along with community people.

8.13 Further interest to work as mason

Majority of the respondents said they have further interest to work as mason if opportunity is given.

Among 3054 respondents, 88% of the respondents have further interest to work as mason, while 7% were not interested in masonry work and 5% recorded their response as “don’t know”.

- **SINDHUPALCHOWK**: 4% don’t know, 87% yes, 9% no
- **SINDHULI**: 3% don’t know, 88% yes, 8% no
- **RASUWA**: 3% don’t know, 91% yes, 6% no
- **RAMECHHANDA**: 10% don’t know, 69% yes, 21% no
- **OKHALDHUNGA**: 5% don’t know, 92% yes, 3% no
- **NUWAKOT**: 5% don’t know, 85% yes, 4% no
- **MAKwanpur**: 11% don’t know, 95% yes, 5% no
- **LALITPUR**: 2% don’t know, 95% yes, 3% no
- **KAVRE**: 3% don’t know, 90% yes, 6% no
- **KATHMANDU**: 3% don’t know, 96% yes, 1% no
- **GORKHA**: 10% don’t know, 76% yes, 14% no
- **DOLAKHA**: 1% don’t know, 98% yes, 2% no
- **DHADING**: 3% don’t know, 88% yes, 3% no
- **BHAKTAPUR**: 9% don’t know, 97% yes, 3% no
8.14 Reason behind not interested to work

Out of 210 respondents who have not further interest to work as mason, 61% of them said they have no interest on masonry work, 18% stated other reasons, 11% reported unavailability of work whereas, 10% said due to low wages on the work.

8.15 Availability of mason

Among 2687 respondents who have further interest to work as mason, 39% of the respondents said they can relocate anywhere, 32% of them said that they can work within neighborhood, about 16% reported they can work only for own house construction whereas 13% of them said that they can relocate only within the adjoining VDCs/Wards.

8.16 Change in perception of community after mason training

80% of the respondents said that perception of the community towards them (in terms of wages, trust and asking about earthquake resistant construction techniques) have been positively changed after the mason training.

10% of the respondents said that perception of the community towards them have not been changed after the mason training.

10% of the respondents recorded their response as “Don’t know”.

### 8.16 Change in perception of community after mason training

![Survey Results]

- **80%** of the respondents said that perception of the community towards them has been positively changed after the mason training.
- **10%** of the respondents said that perception has not been changed.
- **10%** of the respondents recorded their response as “Don’t know”.

### Survey Results

- **Sindhupalchowk**: 114 respondents agree, 55 neutral, 44 disagree, 17 not interested.
- **Sindhuli**: 79 agree, 5 neutral, 19 disagree, 12 not interested.
- **Rasuwa**: 121 agree, 49 neutral, 80 disagree, 37 not interested.
- **Ramechhap**: 27 agree, 9 neutral, 97 disagree, 41 not interested.
- **Okhaldhunga**: 51 agree, 14 neutral, 151 disagree, 83 not interested.
- **Makwanpur**: 141 agree, 8 neutral, 49 disagree, 91 not interested.
- **Lalitpur**: 48 agree, 30 neutral, 66 disagree, 22 not interested.
- **Kavre**: 9 agree, 2 neutral, 19 disagree, 11 not interested.
- **Kathmandu**: 43 agree, 47 neutral, 26 disagree, 4 not interested.
- **Gorkha**: 140 agree, 29 neutral, 198 disagree, 50 not interested.
- **Dolakha**: 44 agree, 7 neutral, 35 disagree, 4 not interested.
- **Dhading**: 23 agree, 22 neutral, 43 disagree, 4 not interested.
- **Bhaktapur**: 179 agree, 54 neutral, 56 disagree, 10 not interested.

#### Unavailability
- **Sindhupalchowk**: 2 respondents.
- **Rasuwa**: 1 respondent.
- **Okhaldhunga**: 1 respondent.
- **Makwanpur**: 4 respondents.
- **Kavre**: 1 respondent.
- **Kathmandu**: 1 respondent.
- **Sindhupalchowk**: 2 respondents.
- **Sindhuli**: 2 respondents.
- **Rasuwa**: 3 respondents.
- **Ramechhap**: 4 respondents.
- **Okhaldhunga**: 5 respondents.
- **Makwanpur**: 5 respondents.
- **Lalitpur**: 3 respondents.
- **Kavre**: 1 respondent.
- **Kathmandu**: 1 respondent.
- **Gorkha**: 1 respondent.
- **Dolakha**: 1 respondent.
- **Dhading**: 1 respondent.
- **Bhaktapur**: 5 respondents.

#### Low wages
- **Sindhupalchowk**: 11 respondents.
- **Sindhuli**: 1 respondent.
- **Rasuwa**: 3 respondents.
- **Ramechhap**: 4 respondents.
- **Okhaldhunga**: 9 respondents.
- **Makwanpur**: 5 respondents.
- **Lalitpur**: 5 respondents.
- **Kavre**: 1 respondent.
- **Kathmandu**: 1 respondent.
- **Gorkha**: 2 respondents.
- **Dolakha**: 1 respondent.
- **Dhading**: 5 respondents.
- **Bhaktapur**: 5 respondents.

#### No more interested
- **Sindhupalchowk**: 11 respondents.
- **Rasuwa**: 9 respondents.
- **Ramechhap**: 19 respondents.
- **Okhaldhunga**: 1 respondents.
- **Makwanpur**: 6 respondents.
- **Lalitpur**: 1 respondents.
- **Kavre**: 1 respondents.
- **Kathmandu**: 1 respondents.
- **Gorkha**: 1 respondents.
- **Dolakha**: 1 respondents.
- **Dhading**: 1 respondents.
- **Bhaktapur**: 1 respondents.

#### Other
- **Sindhupalchowk**: 2 respondents.
- **Rasuwa**: 7 respondents.
- **Ramechhap**: 2 respondents.
- **Okhaldhunga**: 1 respondents.
- **Makwanpur**: 1 respondents.
- **Lalitpur**: 1 respondents.
- **Kavre**: 1 respondents.
- **Kathmandu**: 1 respondents.
- **Gorkha**: 1 respondents.
- **Dolakha**: 1 respondents.
- **Dhading**: 1 respondents.
- **Bhaktapur**: 1 respondents.
There need to be more specific and measurable objectives based on the volume of delivered service. For instance, the survey has an objective; “Measure changes in practices and improving livelihoods”, which seems broad in terms of delivered services as the impact on livelihoods of the masons cannot be generalized through single aspect. The focus should be given to uniformity in understanding of interviewers on survey questionnaire for the intended measurement. It is recommended that priority should be given to ‘face to face interview’ and evade accumulation of primary information from ‘other sources’ for more credibility of the survey findings. On the contrary, if the need is assumed, on peculiar circumstances, to collect information from other than one to one interview with respondents, particular tools should be developed which could precisely accrue the intended information. In addition, it is also suggested to collect secondary data to substantiate the survey findings.

It would be interesting if the question related to “number of infrastructure constructed by applying earthquake resistant construction skill” included on the survey questionnaire in order to measure whether trained masons are appropriately implementing the skill and supporting on build back safer. Besides, it is also suggested to conduct qualitative survey based on the appropriate tools and methods to substantiate and ensure credibility of survey findings for future study.

The report provides an overview on status of appropriate implementation of skills and supporting build back safer houses by the trained masons. Moreover, it also gives an impression on engagement and availability of trained masons. The findings were crucially helpful to anticipate the ratio of houses to be constructed with respect to available masons in the program area for safe shelter construction. The status of post training engagement of the masons with implementation of earthquake resistant skill is found highly satisfactory, which is remarkable accomplishment of the training so far. Moreover, significant number of trained masons are involving in individual shelter construction and majority of the respondents have shown further interest to work as mason. Apart from that, almost all trained masons have shared build back safer information to the community people and their willingness to relocate for construction work also reinforces that the mason training is significantly contributing to “Build Back Safer” goal.

8.17 Change in perception of the community towards respondents after mason training

<table>
<thead>
<tr>
<th>Code</th>
<th>Data label</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>They give me more wages than before</td>
</tr>
<tr>
<td>2</td>
<td>They trust me and give more than before</td>
</tr>
<tr>
<td>3</td>
<td>They ask me about earthquake resistant techniques</td>
</tr>
<tr>
<td>4</td>
<td>Other</td>
</tr>
</tbody>
</table>

Perception of the community towards respondents after mason training have been significantly changed. Among 3054 respondents, about 80% of them said that perception of the community have been changed by either giving more wages than before training and/or trusting more than before the training and/or asking about earthquake resistant construction technique and/or by other reasons.

Out of 2442 respondents who reported that perception of community have been changed towards them, about 27% of them said that community people gives them more wages along with trust more and ask about earthquake resistant construction techniques with them after mason training, about 18% said that community people trust more and ask about earthquake resistant technique, about 16% of them said that community people gives more wages and trust more than before the training.

Whereas, around 15% and 14% stated that community people gives more wages and trust more than before the training respectively.

9. Recommendation

There need to be more specific and measurable objectives based on the volume of delivered service. For instance, the survey has a objective; “Measure changes in practices and improving livelihoods”, which seems broad in terms of delivered services as the impact on livelihoods of the masons cannot be generalized through single aspect. The focus should be given to uniformity in understanding of interviewers on survey questionnaire for the intended measurement. It is recommended that priority should be given to ‘face to face interview’ and evade accumulation of primary information from ‘other sources’ for more credibility of the survey findings. On the contrary, if the need is assumed, on peculiar circumstances, to collect information from other than one to one interview with respondents, particular tools should be developed which could precisely accrue the intended information. In addition, it is also suggested to collect secondary data to substantiate the survey findings.

10. Conclusion

The report provides an overview on status of appropriate implementation of skills and supporting build back safer houses by the trained masons. Moreover, it also gives an impression on engagement and availability of trained masons. The findings were crucially helpful to anticipate the ratio of houses to be constructed with respect to available masons in the program area for safe shelter construction. The status of post training engagement of the masons with implementation of earthquake resistant skill is found highly satisfactory, which is remarkable accomplishment of the training so far. Moreover, significant number of trained masons are involving in individual shelter construction and majority of the respondents have shown further interest to work as mason. Apart from that, almost all trained masons have shared build back safer information to the community people and their willingness to relocate for construction work also reinforces that the mason training is significantly contributing to “Build Back Safer” goal.

11. Our Partners

12. Photographs

Semi-skilled masons after completion of 7 days mason training

Participants of mason training acquiring knowledge of earthquake resistant construction technique

One of the participant preparing through stone to use in wall corner during practical sessions of the training.

Participants of mason training during practical sessions to acquiring knowledge on earthquake resistant construction technique