



Center for Disaster Management  
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## Emergent Issues and Vulnerability Factors in Temporary and Intermediate Shelters Following the 2015 Nepal Earthquake

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### EXECUTIVE SUMMARY

The 25 April 7.8 magnitude Gorkha earthquake and subsequent aftershocks, including the 7.3 magnitude earthquake in Dolakha, has caused devastation in Nepal on a scale not seen since the 1934 Nepal-Bihar Earthquake. According to the Government of Nepal, the Gorkha earthquake and aftershocks have severely damaged or destroyed nearly 900,000 buildings and approximately 2.3 million people continue to be displaced. The Gorkha earthquake created an unprecedented need for emergency shelter as well as temporary and transitional housing. A CEDIM-led research team conducted 284 household surveys in 177 locations spanning 27 Municipalities/VDCs and 7 districts. Types of shelter sites varied to include officially provided and spontaneous sites, located in urban and rural areas, and ranging from emergency shelter to temporary and transitional housing. The purpose of the study is to better understand the factors that increase vulnerability to being displaced. This report reviews the emergent issues with respect to decision processes of displaced households seeking shelter and temporary housing.

We found that many displaced residents sought refuge close to their homes in open spaces, with housing damage, and the threat of landslides and aftershocks being the main drivers to seeking shelter. After the earthquake most households continued to visit their homes even if severely damaged or destroyed. Within the shelter sites, sanitation, water and food were the main issues. A majority of households also admitted to suffering from emotional difficulties,

and more than half confirmed that women in their households experienced additional problems.

In regards to communicating their issues, we found that households speak to government office officials over other agencies. Furthermore, they communicate in person, with cellphones, internet and social media barely contributing in this regard. We also found locations where camp management committees were created to represent the shelter sites when speaking to officials and other agencies. These committees became a source of information as well as a conduit to have household needs heard and potentially resolved.

Households understood that landslides were currently a major risk in many areas. Some suggested they will be less concerned once the monsoon is over, while others appeared to view the risk as a long term issue. Regardless, many stated they need to know more information about landslide risk, and some demanded that experts assess their area to confirm it is safe to live. We also found that many households want further information about how to build back better, in order to withstand future earthquakes, and many had their own ideas for doing so.

Regarding future plans, many households were planning on staying in their current shelter during the monsoon with the majority of these being households from rural areas. And almost one third of households stated they would not be able to return to permanent housing within the next 10 years without financial assistance. The current situation is that many households have little money to rebuild or recover, as a large majority of households had experienced a severe impact on their ability to generate income. Many also have nowhere to go as homes were destroyed, and for some, their land has been wiped out by landslides. While the extent to which each household has been impacted by the earthquake varies, all are at a critical moment in planning for their future and re-establishing their home plays a major role.

The aim of this report is to analyze the current shelter response situation with a view on emerging factors critical to forming an appropriate shelter policy which will account for the vulnerability of displaced populations in Kathmandu and affected areas across Nepal.

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## 1. Introduction

Since 2011 the Center for Disaster Management and Risk Reduction Technology (CEDIM, [www.cedim.de](http://www.cedim.de)) has carried out a new vision and strategy for analyzing and exploring disasters and their impacts in near real-time under a research program known as Forensic Disaster Analysis (FDA). FDA combines the development of a comprehensive understanding of disasters with real-time analysis of data. The CEDIM FDA approach has so far relied on carrying out a comprehensive analysis by a multidisciplinary team of scientists with regard to social, economic, infrastructure, environmental and intangible losses where this information is used to generate insight about potential emerging issues in the post-disaster relief, recovery and reconstruction process. For their post-event analysis, CEDIM scientists have developed tools and methods to leverage large amounts of data from: (a) available global databases regarding previous earthquake losses, socio-economic parameters, building stock information, etc.; and (b) crowd sourcing with rapid information on the disaster event emerging from the field by utilizing various social media, data and information platforms such as Twitter, Humanitarian Digital Exchange, Relief-web, amongst many others.

Expanding the work of CEDIM FDA, the CEDIM team in close collaboration with the South Asia Institute (SAI) at Heidelberg University and National Society for Earthquake Technology (NSET) in Nepal embarked on a two-week reconnaissance mission on June 6th 2015. The aim of the research team was to develop and carry out a household level survey of displaced populations for systematic data collection on decision processes and information needs to seek shelter and investigate vulnerability factors to being displaced.

The 7.8 magnitude Gorkha, Nepal earthquake of 25 April, 2015 serves as a first example for the FDA approach where the near-real time approach was complemented by a conducting a field reconnaissance. CEDIM had been analyzing the earthquake and its impact since April 25<sup>th</sup>, and the results of the near-real-time were published in three consecutive reports on April 27<sup>th</sup> (Daniell et al., 2015a); May 5<sup>th</sup> (Khazai et al., 2015) and May 12<sup>th</sup> (Daniell et al., 2015b). The second CEDIM FDA report on May 5<sup>th</sup> focused on shelter response and vulnerability of displaced populations following the Nepal earthquake. This fourth report will focus on the findings of the reconnaissance mission from June 6 – 19<sup>th</sup> and document the results of the Household Shelter Survey that was carried out during this time.

## 2. Background

On 25 April 2015, a 7.8 magnitude earthquake struck Nepal with its epicenter in Lamjung District, around 81 km northwest of the country capital, Kathmandu. The earthquake struck on a Saturday at 11:56 local time when schools were not in session. The catastrophic earthquake was followed by more than 60 aftershocks greater than magnitude 4.0 by May 12 when a second 7.3 magnitude earthquake occurred on the same fault as the first but further east in Dolakha District. In some areas the second earthquake caused more damage than the original as it caused previously damaged buildings to collapse. In total more than 300 aftershocks greater than magnitude 4.0 and four aftershocks greater than magnitude 6.0 have been recorded to date.

As of 7th July 2015, the Government of Nepal reported 8,712 deaths and 22,493 injured people. It is estimated that the earthquake affected 8 million people (over one third of Nepal's population) in 39 districts (including Kathmandu Valley districts), in four of the five development Regions of Nepal (Far Western region has not been affected). The government

also has identified 2,673 government buildings and 602,257 households with fully damaged houses and another 3,757 governmental buildings and 285,099 households with partially damaged across 75 districts in total (GoN 2015). Subsequently, the United Nations (UN) has emphasized the need for shelter in the affected communities. Additionally more than 3.5 million people were estimated to be in need of food aid of which 1.4 million were estimated by the UN to require food assistance for the next three months after the earthquake (UNRC 2015). The last large earthquake of similar magnitude was the 8.4 magnitude Bihar earthquake in 1934 which had resulted in more than 10,000 deaths in Kathmandu Valley.

There are 14 most affected (priority) districts, namely Bhaktapur, Dhading, Dolakha, Gorkha, Kathmandu, Kavrepalanchok, Lalitpur, Makwanpur, Nuwakot, Okhaldhunga, Rasuwa, Ramechhap, Sindhuli and Sindhupalchok. A REACH survey conducted in these districts has found that 61% of all households have identified shelter/housing to be their primary need (REACH 2015). Despite the appointment of these 14 districts, other districts are also considered heavily impacted and partially in need of relief aid (e.g. Solukhumbu). The map (Figure 1) gives an overview of the affected population in terms of damaged buildings according to the government. The earthquake impacted both the mountain districts of the far north, incorporating the remote mountain massifs of the High Himalaya (represents only 7.3% of the total national population) and the hill districts (represents 44.2%).

Overall, 22,500 civil servants, 65,059 staff of the Nepal Army, 41,776 staff of Nepal Police and 24,775 staff of the Armed Police Force, as well as 4,000 government and private health worker were mobilized to aid rescue and relief efforts. International humanitarian assistance and emergency relief to the affected population was provided with the active support and contribution of over 60 countries as well as the United Nations and other international agencies (GoN-NPC 2015).

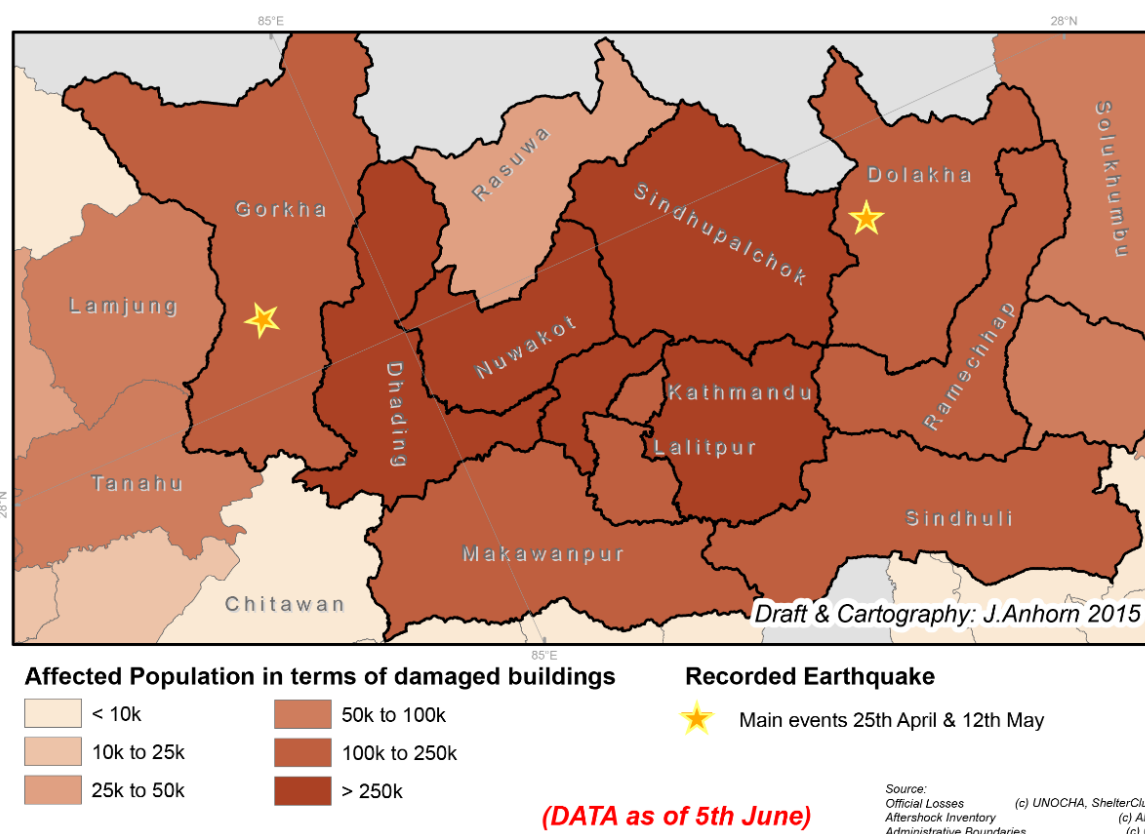
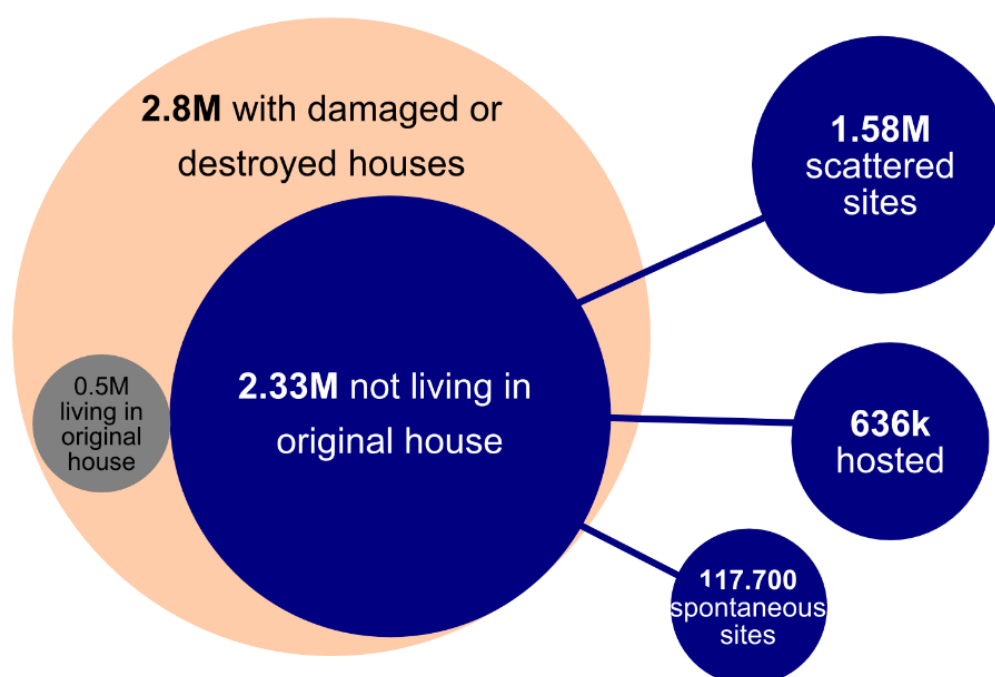


Figure 1: Affected population in terms of damaged buildings per district.

### 3. Shelter Response

The earthquake was estimated to leave 2.8 million people with damaged or destroyed houses, of which 500,000 were living in their original houses (UNOCHA 2015e). Three types of sheltering situations were observed for the remaining 2.33 million: 1.58 million people are estimated to be located in ‘*scattered sites*’, consisting of less than five households on the land of their damaged house or nearby in open spaces; 117,700 in “spontaneous sites”, consisting of five to fifty households on public or privately owned land without official support, and 636,000 in “*hosted sites*” with 50 or more households with official support in designated public spaces (Figure 2) (UNOCHA 2015e).



Source: UN OCHA 2015e

Figure 2: Humanitarian profile: people sheltering by camp site types (Source: UNOCHA 2015e)

**Scattered shelter sites** remain by far the largest share for Internally Displaced Persons (IDPs) in camps. They vary in size from individual tents next to damaged houses to smaller but still unsupported groups of families (Figure 3). They use salvaged materials or non-food items distributed by aid organisations and consecutively replace if more durable materials become available (Figure 3).





*Figure 3 Above: Scattered shelter site using salvaged materials and CGI sheets in a completely destroyed rural settlement (Photo: J. Anhorn). Below: Typical near-house shelter for sleeping purposes next to minor- or un-damaged buildings or on own property (Photo Left: T. Girard; Right J. Anhorn).*

Using high resolution post disaster imagery and coordinated by the Humanitarian OpenStreetMap Team (HOT), mapping activities performed by volunteers around the world identified more than 16,000 IDP camps from individual tents, to larger clustered accumulations. Figure 4 shows the spatial representation of these shelter sites within greater Kathmandu area as of 1<sup>st</sup> May, only six days after the event.

The temporal dynamics of the number of identified scattered sites across Nepal are depicted in Figure 5. The strong peak on day 17 might be due to more attention on shelter issues and additional HOT tasks designed to map IDP camps. Not necessarily, this peak represents the factual increase in camps established due to the second earthquake itself. As remote mapping relies on post-earthquake high-resolution imagery which might not be available so quickly and updating of tagged features remains a big challenge. It is important to note that the mapping results might also include misinterpreted imagery and do not indicate if these sites are still used or habitable. Generally these kind of crowdbased geospatial data provide a valuable tool to track the underlying dynamics of camp establishment in remote areas as official surveyors might face access limitations similar to aid organisations.

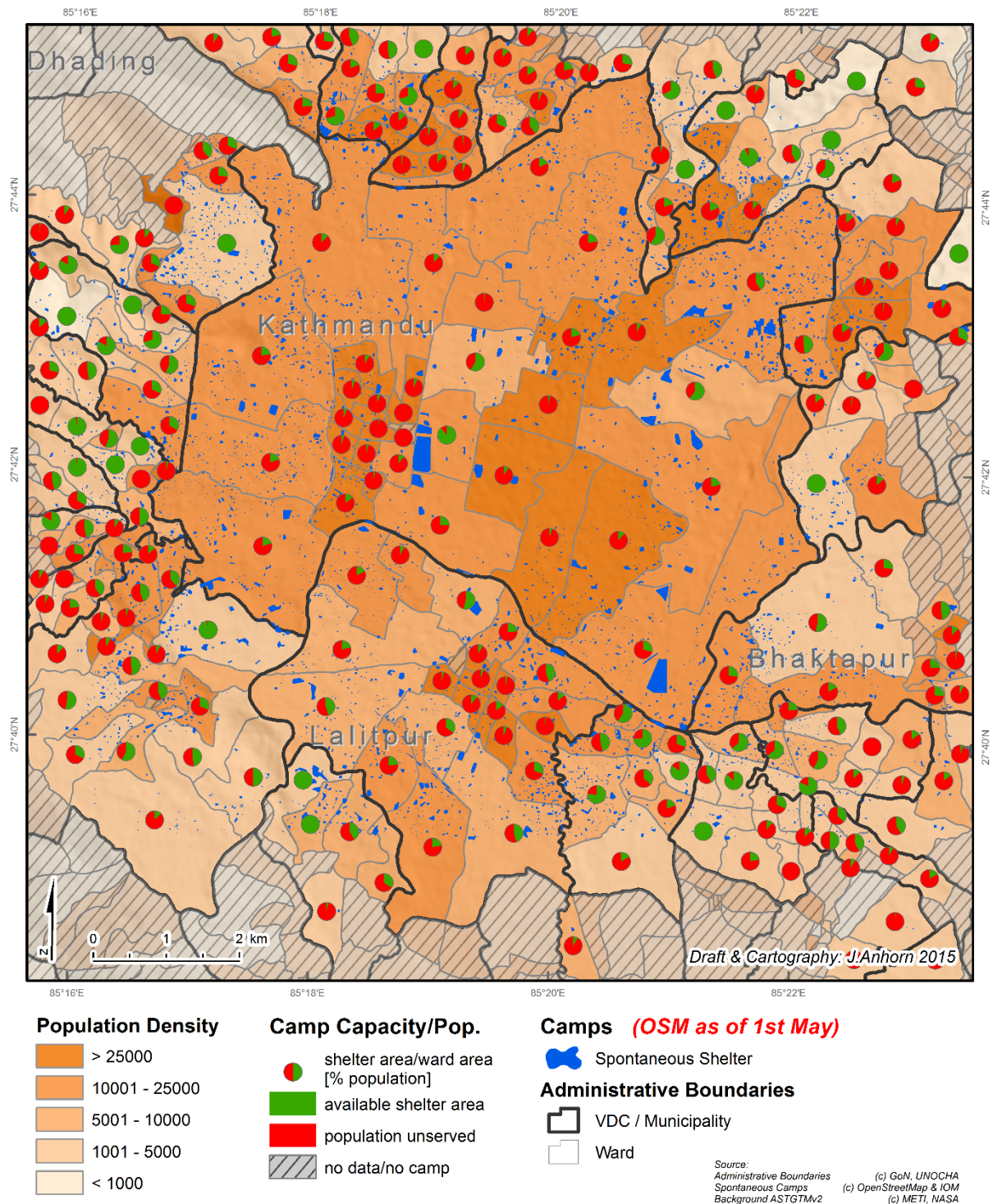


Figure 4 Spatial distribution and camp capacity of scattered shelter sites (OSM tagged: spontaneous camps) in greater Kathmandu as mapped by the Humanitarian OpenStreetMapTeam (HOT) (Source: Khazai et al. 2015).



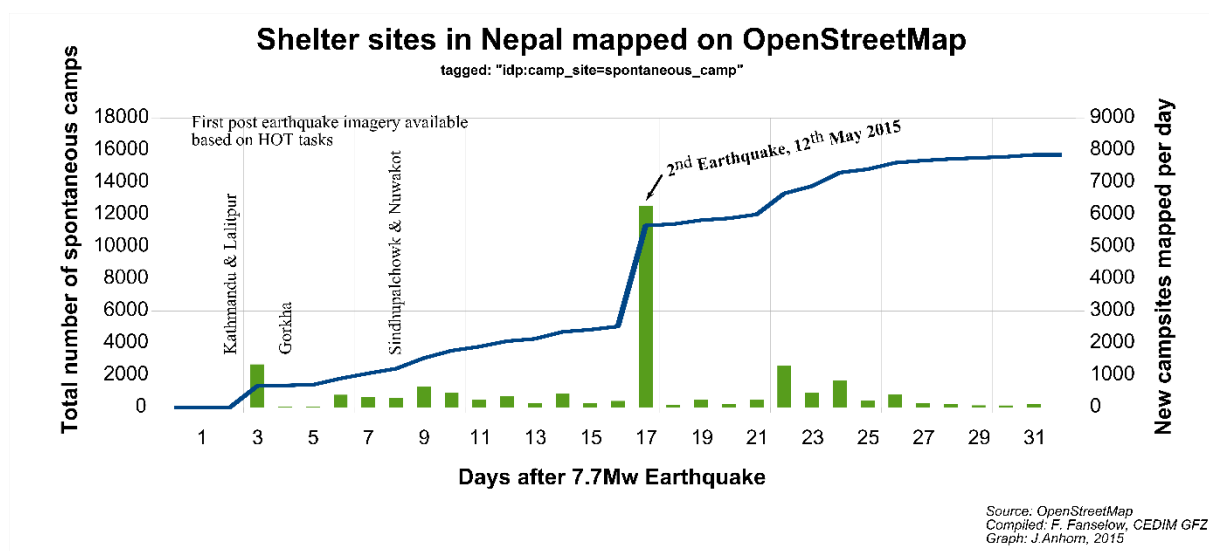


Figure 5 Temporal dynamics of mapping activities from the Humanitarian OpenStreetMap Team (HOT) on IDP camps in Nepal (Source F. Faselow/CEDIM GFZ).

**Spontaneous shelter sites** developed where larger communal space was available, but official support did not (yet) arrive (Figure 6). In some cases these sites do have access to facilities (e.g. WASH) from nearby communal facilities like schools or government buildings. In general, they are characterized to not having any kind of external camp coordination or tents distributed by aid organisations.



Figure 6 Spontaneous camps exist in various sizes on public lands like this school compound in Nuwakot (Photo: J. Anhorn).

**Hosted shelter sites** (official managed camps; Figure 7) were established immediately in Kathmandu in 16 designated public spaces (from an initial pre-identified 83 sites in the IOM/NSET shelter contingency plan). Public shelter is often considered as a last resort and In-place sheltering was favoured by many residents as they prefer to stay close to their homes, food reserves, livelihoods and social ties. Furthermore, the supply of non-food items, particularly tarpaulins, proved inadequate as the fear for aftershocks drove many families, including those whose houses had not been damaged, to seek temporary shelter in scattered and spontaneous sites.

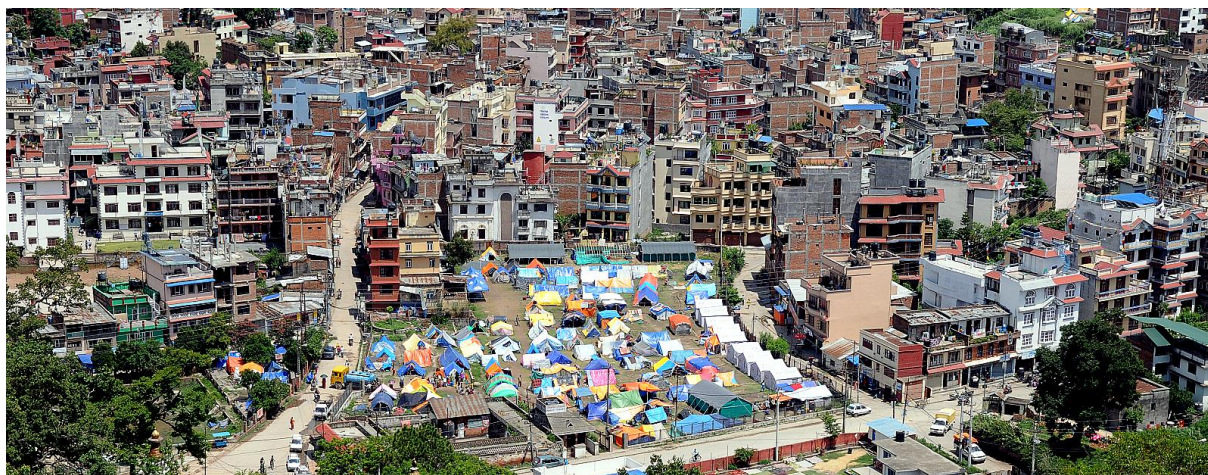


Figure 7 Hosted shelter site in Kathmandu (below Swayambhunath) (Photo: J. Anhorn).

However, many displaced residents sought refuge close to their damaged homes in outdoor camps and a landscape of spontaneous and scattered sites soon emerged (Khazai et al. 2015). According to the IOM Displaced Traffic Matrix (DTM) as of 30th June, 87,995 IDPs are in 219 so called priority sites<sup>1</sup> (Table 1). The DTM covers a variety of important issues, while focusing only on larger agglomerations of IDPs in camp sites. The IOM assessment indicates that 122,557 people have resided in 493 shelter sites of different size including the priority sites. Spontaneous settlements have been documented in all affected districts.

Table 1: Number of IDPs, priority sites and HH in shelter camps according to IOM (Source: IOM 2015).

District	Priority Sites	HHs in Priority Sites	IDPs in Priority Sites
Bhaktapur	18	1,779	9,242
Dhading	28	1,227	7,642
Dolakha	8	484	2,242
Gorkha	16	1,293	7,846
Kathmandu	16	2,891	15,954
Kavrepalanchok	22	983	5,696
Lalitpur	8	534	2,698
Makwanpur	24	980	5,492
Nuwakot	21	2,018	11,210
Okhaldhunga	24	904	6,072
Ramechhap	11	490	2,757
Rasuwa	3	431	2,925
Sindhuli	11	503	3,279
Sindhupalchok	9	1,025	4,940
Total	219	15,542	87,995

The dynamics of IDPs in priority sites is displayed in Figure 8) using the DTM data from the first (2 May to 25 May) and second round (21 May to 14 June). Mainly in the urban areas

<sup>1</sup> IOM Criteria for Priority Sites

1. The number of households/families must exceed 20
2. Higher density tents/shelters (villages that have scattered shelter within are not priority sites)
3. Larger distance displacement
4. IDPs must be living on site, not accessing their homes by,
  - a. Accessing toilets/latrines on site, or using a nearby toilet that is not their own
  - b. Possession of their belongings on site
  - c. Clear indications that they are cooking on site

sites have been closed due to shrinking demand. On the other hand, there are reports on people being pushed out of existing camps due to ownership issues demanding their area (see section 6.4).

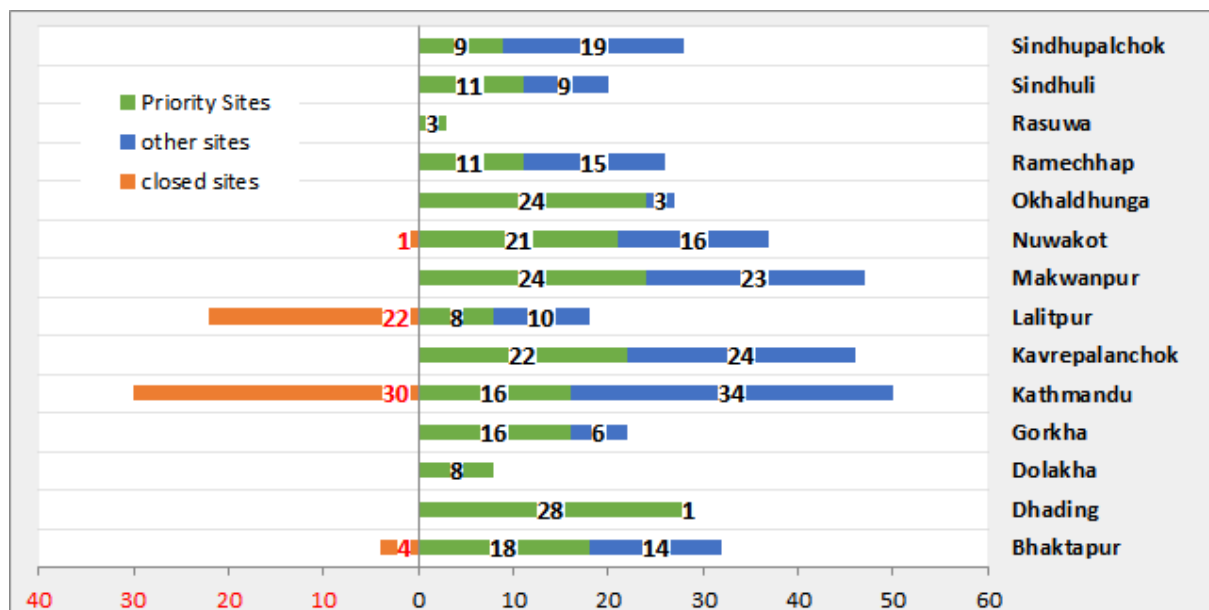


Figure 8 Number of priority sites, non-priority sites and closed sites according to IOM (Source: IOM 2015)

## 4. Research Methods and Questionnaire Structure

### 4.1. Survey Design and Methodology

A Household-level Shelter Survey (HSS) was designed and implemented to collect perishable data and support research in several complementary areas, including: 1) modelling of shelter seeking populations from household and earthquake impact characteristics (e.g., Khazai et al. 2014); 2) suitability criteria for establishing shelter sites (e.g., Anhorn et al. 2015); 3) understanding vulnerability factors associated with population displacement (e.g., Brink and Khazai in review); and 4) understanding communication process of displaced populations (e.g., Girard et al. 2014).

The HSS is composed of 49 questions divided into five basic parts in the following order: (1) household and demographic information; (2) earthquake impact; (3) shelter situation; (4) communication aspects; and (5) future intentions. Qualitative supplemental questions are also added along each section to follow up with responders in the interviews.

The HSS is a stratified sample of 285 displaced households from 177 sheltering sites in 27 Municipalities/VDCs across 7 affected districts of Nepal (Kathmandu, Lalitpur, Bhaktapur, Dhading, Nuwakot, Dolakha and Sindhupalchowk) (see Figure 9). The HSS has been designed to systematically collect perishable data on household-level decision processes and information needs to seek shelter and investigate vulnerability factors in being displaced.



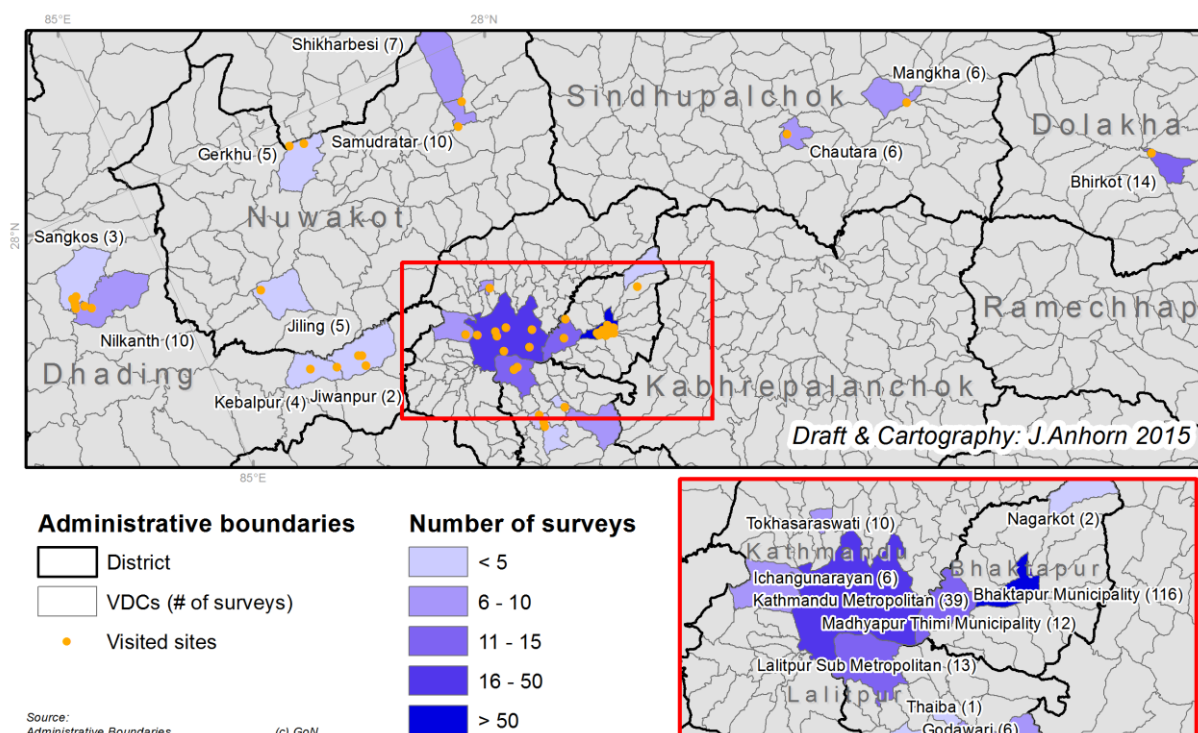


Figure 9 Map of VDCs, camp sites and number of surveys conducted.

A household in the HSS is defined as all individuals (related family members and all unrelated individuals) whose usual place of residence at the time of the interview is the shelter location. Individuals who are temporarily absent and who have no other usual address are still classified as household members even though they are not present at the shelter site during the interview. The HSS differentiates between household members living in a household before the earthquake and household members living at the shelter site. The stratified sample includes sub-populations of displaced persons in the following categories: (1) urban vs. rural affected areas; (2) hosted shelter sites (designated sites with more than 50 households), spontaneous shelter sites (more than 5 households) and scattered shelter locations (less than 5 households); and (3) emergency tents shelters vs. intermediate shelter.

Appendix I shows the questions used in the HSS and provides a description of the HSS characteristics.

## 4.2 Survey Implementation

The HSS instrument was designed by the CEDIM-SAI research team and contextualized and translated in Nepali with NSET and an independent consultant in several iterative steps. Furthermore, key interviews with agencies involved in the Nepal shelter response (IOM, UNOCHA, ACTED, Communication with Communities) and discussions at the Shelter Cluster Meeting (SCM) and Camp Coordination Cluster Meeting (CCCM) was instrumental to adjusting the survey questions to the key issues of the Nepal shelter situation. Finally, the design and localization of the HSS has benefited from discussions with ACTED on the design of the REACH Shelter Recovery Assessment (SRA) and detailed exchanges with IOM Nepal with regards to the Displacement Tracking Matrix (DTM) and Rapid Intentions Survey (RIS). As the HSS is developed as a tool with targeted research questions in mind, the complementary surveys (i.e. SRA, DTM and RIS) could not replace the need for an own



survey which primarily focuses on shelter behaviour and decision factors used in the research by CEDIM and SAI.

The survey was pilot tested in an urban formal tent shelter camp in Kathmandu as well as at a spontaneous site in a rural area of Lalitpur to identify areas of the questionnaire or interviewer procedures that were problematic for interviewers or respondents. A secondary objective was to obtain information about the questionnaire, interviewer behavior, or respondent behavior that would help in adjusting the original questions when problems were discovered.

To scale the interviews and collect sufficient data during the brief reconnaissance mission additional interviewers from Tribhuvan University and a local NGO (AAROH) were trained by the CEDIM/SAI. The primary objective of the training was to minimize survey errors by achieving consistent application of established interview protocols across interviewers and sites. Key research questions were discussed with all interviewers during the training. This provided opportunities for qualitative follow-up questions in the surveys which were documented in a designated area of the survey sheets.

284 surveys were conducted from June 12 – 19 by 15 interviewers after the initial pilot testing and finalization of the survey instruments. Appendix I provides a description of the translation/localization of the survey, training of interviewers, implementation of the survey, post-survey debriefing and overview of the data quality of the HSS results.

## 5. Characteristics of post-earthquake sheltering

### 5.1. Reasons for sheltering

#### 5.1.1. Damaged Homes

One of the primary reasons for seeking shelter was physical damage of homes. Housing damage differed by area with 94% of households from rural areas reporting totally collapsed or severely damaged buildings compared to 70% of the households from urban areas (Figure 10).

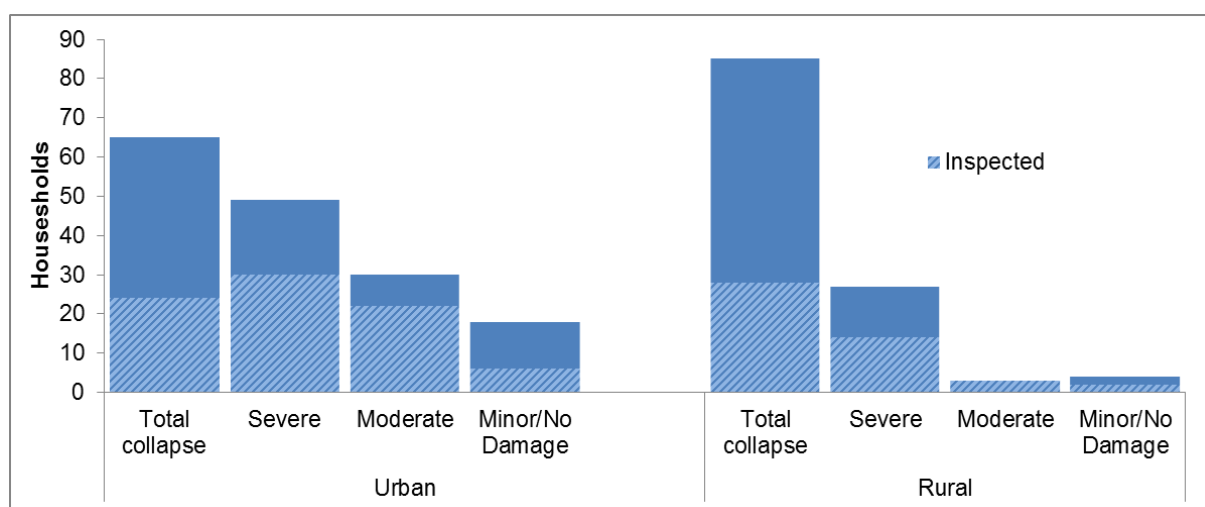


Figure 10: Number of each severity of reported building damage by survey respondents from urban and rural areas. The quantity with the pattern reported that their home had been inspected

Buildings that were inspected or tagged as “unsafe” was an important factor in household’s decision to seek shelter and leave the home. Most households had a common perception of the level of damage of their home, but the system to inspect and tag buildings has been uneven. Within rural areas, 44% of households said that their house had been inspected as compared to 62% of households from urban areas (Figure 10). Many reported that while their building was not officially tagged as unsafe, it was inspected by VDC officials who had informally recommended for them not to stay. We found that of those households which said that their household had been tagged and knew the colour, 14% reported a different level of damage than the tag implied.

### 5.1.2. Landslides

The threat of landslides is a primary driver in this event for long-term displacement and people’s decision to seek shelter. Widespread landslides, rockfalls and avalanches across the affected region have wiped out entire villages destroying houses and livelihoods. For example, landslides which occurred in Langtang Valley or Ree VDC in Dhading district forced the surviving inhabitants to move days away from their places of origin disconnected from their source of livelihood and facing hardships and a precarious future as the initial land given to them might be not available for a longer period or not suitable during the monsoon season.

*Twenty-one percent* of the displaced households from rural areas indicated safety from landslides as a primary reason for selecting their current shelter site. Many of the people interviewed could not return back to their places of origin as they did not have land or homes anymore at these sites. Many did not want to return to places they perceived to be prone to landslides. Whole villages remain in some camps with nowhere else to go.

Relocation is the most common response to landslide risk, but there is variation in reaction. Some of these displaced households and villages have travelled long distances and crossed administrative boundaries in order to find safe areas. In four camps we met groups that had brought a large proportion of the village down together to lower land hours of walking distance away in order to avoid landslides (Figure 11). These communities have remained together, but in order to avoid landslides, they have lost economic opportunities, livestock, property and are experiencing additional adverse effects associated with living in a new place such as adjustment to the different climate and difficulties with the locals. Relocation due to fear of landslide is also a household-level decision where the elderly and children were sent to Kathmandu as they would not be able to run and escape from a landslide. In other cases the elderly refused to leave when the rest of the village left because of their strong connection to the place.



Figure 11: People from Ree and Lapa VDC Dhading whose villages were destroyed by landslides are sheltering on the hills near the district capital Dhading Besi (Photo: J. Anhorn).

### 5.1.3. Aftershocks

The 7.8 magnitude earthquake on April 25 resulted in a high frequency of aftershocks. By May 11 more than 60 aftershocks of magnitude 4 and larger were observed, several of them causing additional damage and fatalities within the vicinity of their respective epicenters. On May 12<sup>th</sup>, a 7.2 magnitude earthquake occurred on the same fault as the larger magnitude 7.8 earthquake of 25 April, but further east in Dolakha. As can be seen in Figure 12, the observed number of daily aftershocks has declined significantly following the two main events.

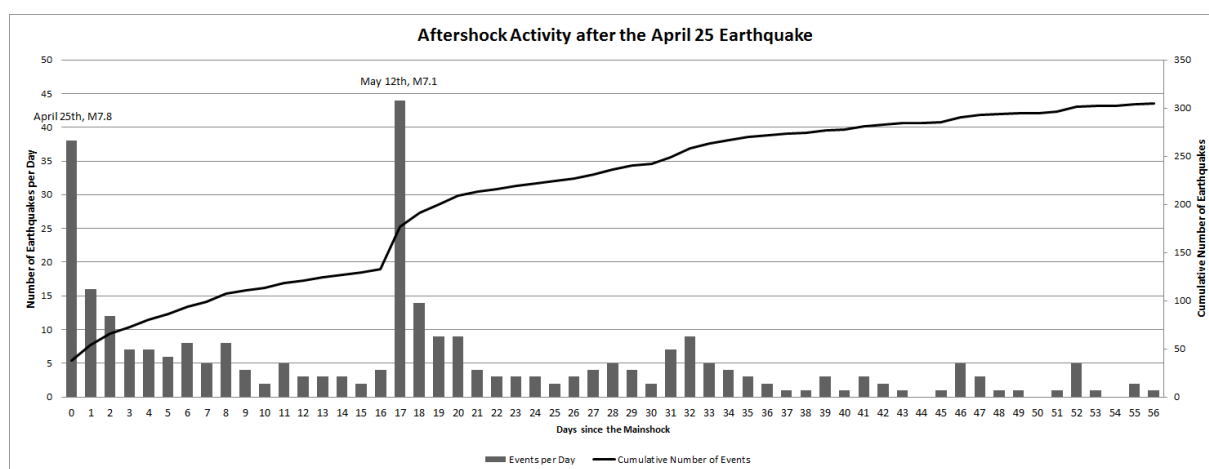


Figure 12: Occurrence of aftershocks of magnitude 4 or larger over time. The columns (left scale) show the activity per day while the line (right scale) shows the cumulative number of events over time. (Source: A. Schaefer, CEDIM).

Across all affected areas, the fear of aftershocks is a key driver in the shelter behavior of displaced populations. From the displaced population surveyed 88% of those whose house was not destroyed indicated their house was still unsafe from aftershocks at the time of the interview (84% of those from urban areas and 93% of those from rural areas, Figure 13 left). Seventy percent of all interviewed indicated safety from aftershocks as a primary reason for selecting their current shelter site, although this was more prevalent in urban areas (Figure 13 right). Some survey respondents from urban areas even indicated that their house was objectively safe from aftershocks, but were still afraid to live there. One survey respondent

indicated that she had moved back to the house multiple times, but returned to her shelter every time there was an aftershock.

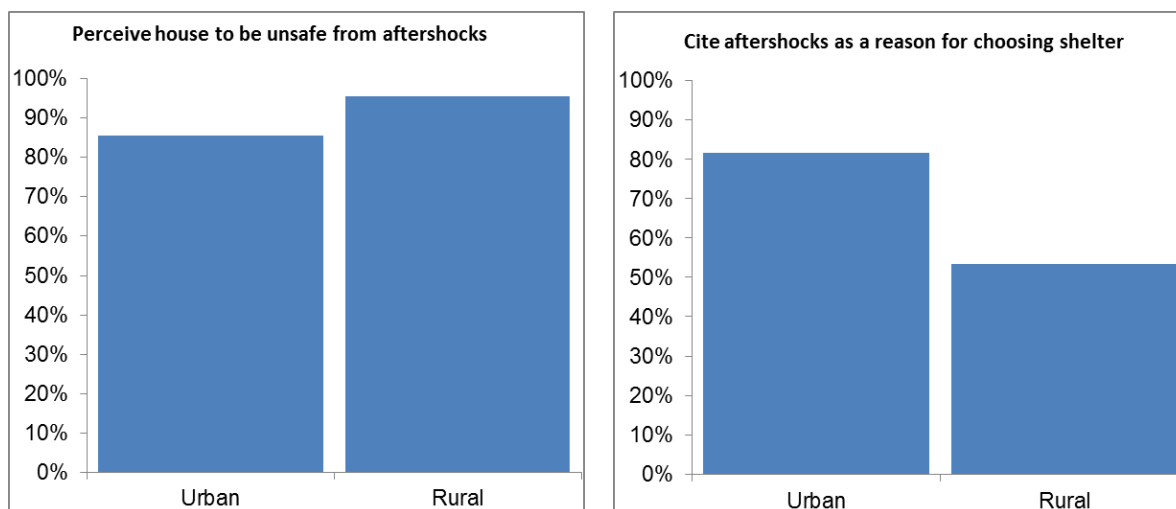


Figure 13 Left: Percentage of households which perceived their house to be unsafe from aftershocks. Right: Percentage of respondents which cited safety from aftershocks as a reason for choosing their current shelter.

## 5.2. Characteristics of households in different shelters

### 5.2.1. Immediate Post-earthquake Reaction of People and Evacuation Behaviour

The survey respondents who had lived in rural areas mostly had severe building damage (94%) as compared to those who lived in urban areas (70%). Immediately post-earthquake the behavior showed differences as 44% of households in rural areas spent the first night after the earthquake either in their home or directly beside it as compared to only 22% of households living in urban areas (Figure 14).

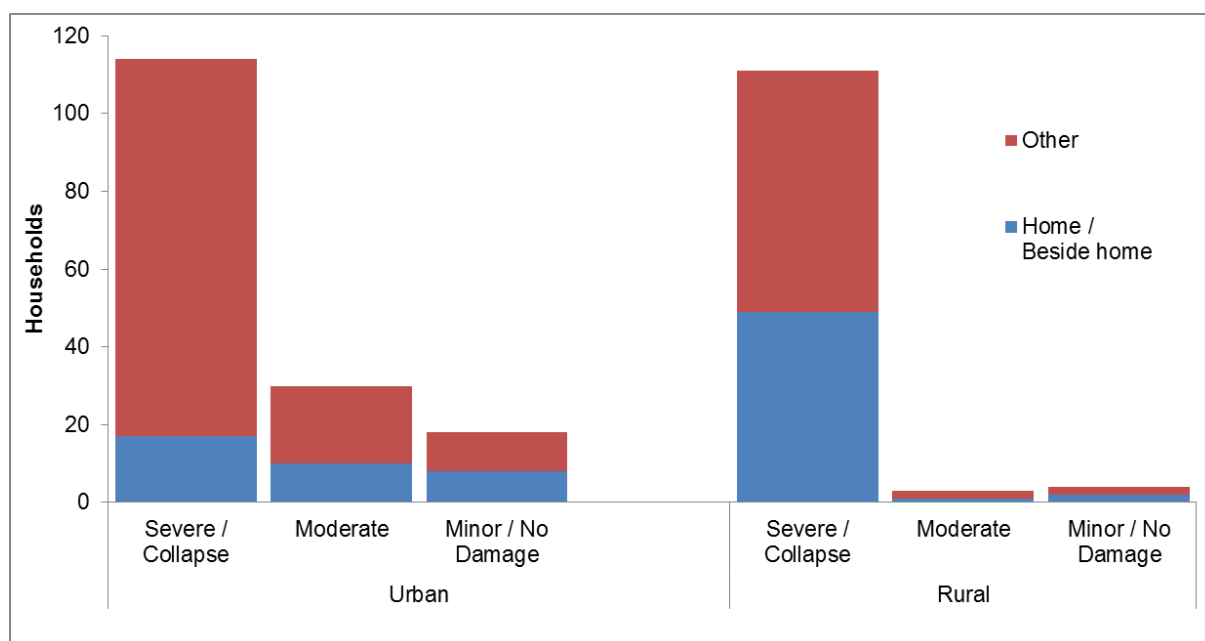


Figure 14: Damage state in urban and rural settings compared to where people spent the first night after the earthquake.



The percentage of households that stayed at home or beside their home the first night can be compared to standard measures of vulnerability. Figure 15 shows that regardless of household characteristics, households from urban areas were less likely to stay at or near their home than those in rural areas. This is likely related to the amount of open space available. Thirty-five percent of households from urban areas said that there was space near their home that they could use to set up a shelter as compared to 71% of households from rural areas.

In urban areas vulnerable households including those with very low income (<5000 rupees per month), and those households which included members with disabilities or elderly were likely to stay at or beside their home the first night. There is little variation in the rate of staying at or near the home for the rural communities with one exception. Those households which owned a vehicle were less likely to stay at or near their home.

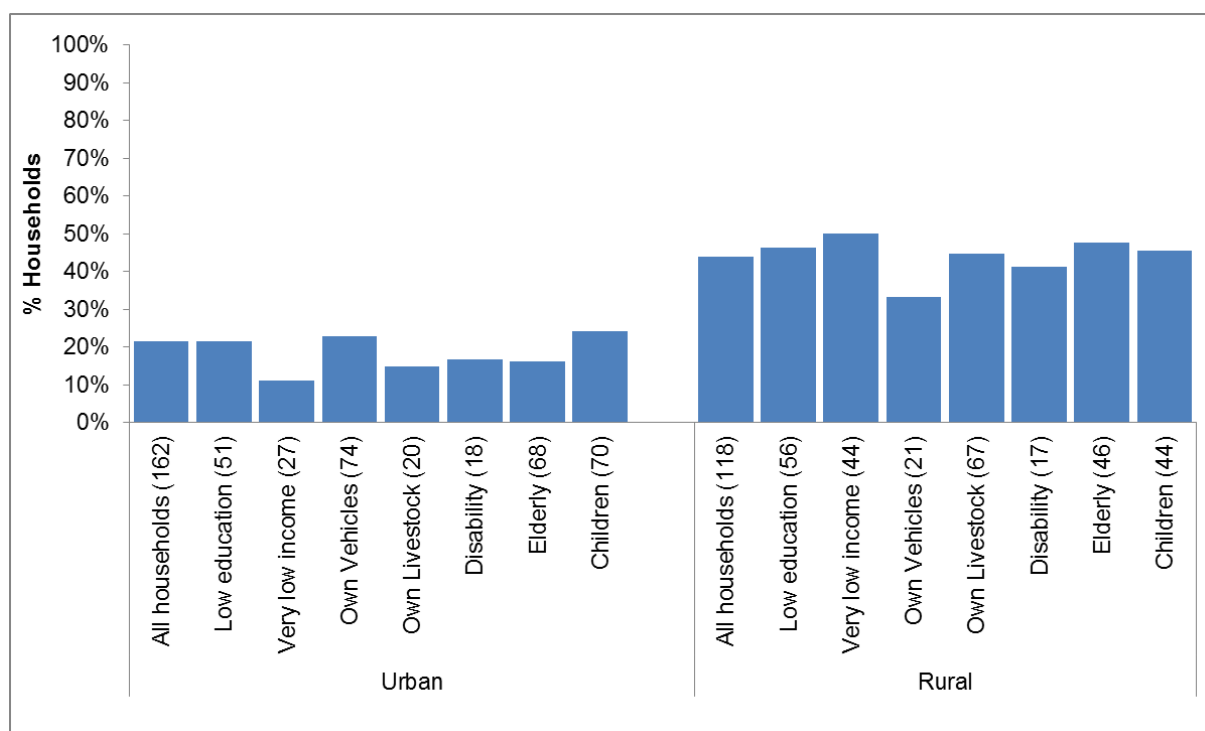


Figure 15: Percentage of households which stayed at home or beside their home the first night

### 5.2.2. Current shelter relationship to home

Many of our survey respondents had travelled for many days in order to reach the shelter that we visited them in. Many households moved to cities and down out of the hills due to fear of landslides and in order to access resources (Figure 16).

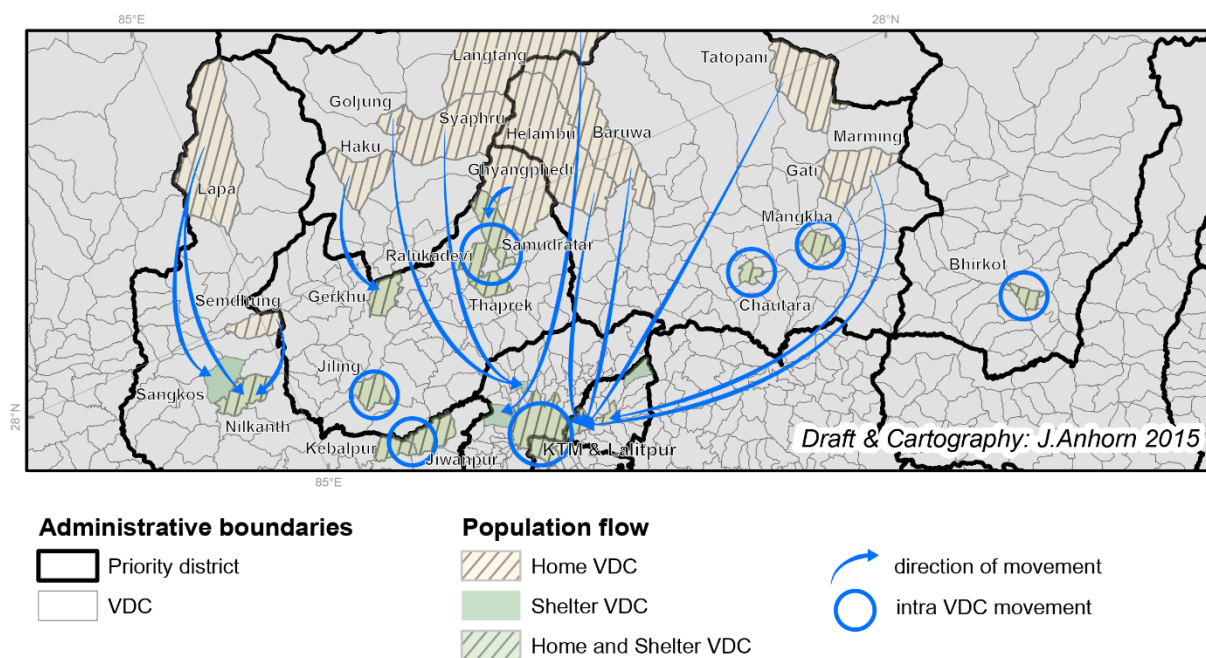


Figure 16: Direction of movement, home and sheltering VDCs of displaced population in visited sites

This varies by origin as less than 1% of the households from urban areas were sheltering in a different district while 36% of the rural households were. The breakdown is more significant when we consider the distance from the shelter to the house. In rural areas, we found that 27% of households were sheltering beside the house they lived in before the earthquake, but this number was only 7% in urban areas where limited open space drove people to shelters. On the other hand, those who came from urban areas were significantly more likely to shelter less than 2 hours away from their former home (only 1% moved further away). This compares to 33% of those from rural areas that moved more than 2 hours away from their home. Many of these came from even further away with 18% a day or more away from their home and 7% three or more days.

Within households from urban areas, there was little difference in the distances the households moved. However, households from rural areas showed variation in distance between their temporary shelter and their home based on some vulnerability characteristics (Figure 17). Households which owned vehicles were disproportionately likely to live less than 2 hours from their home, but not beside it. This likely reflects the benefit of mobility in increasing access to shelter sites. Households with children less than 5 years old were the most mobile households being less likely to stay beside their home and more likely to move more than 4 hours away. Very low income households and those with disabilities were the most likely to stay close to home with large numbers staying beside the house and the least number of households moving more than 2 hours away.

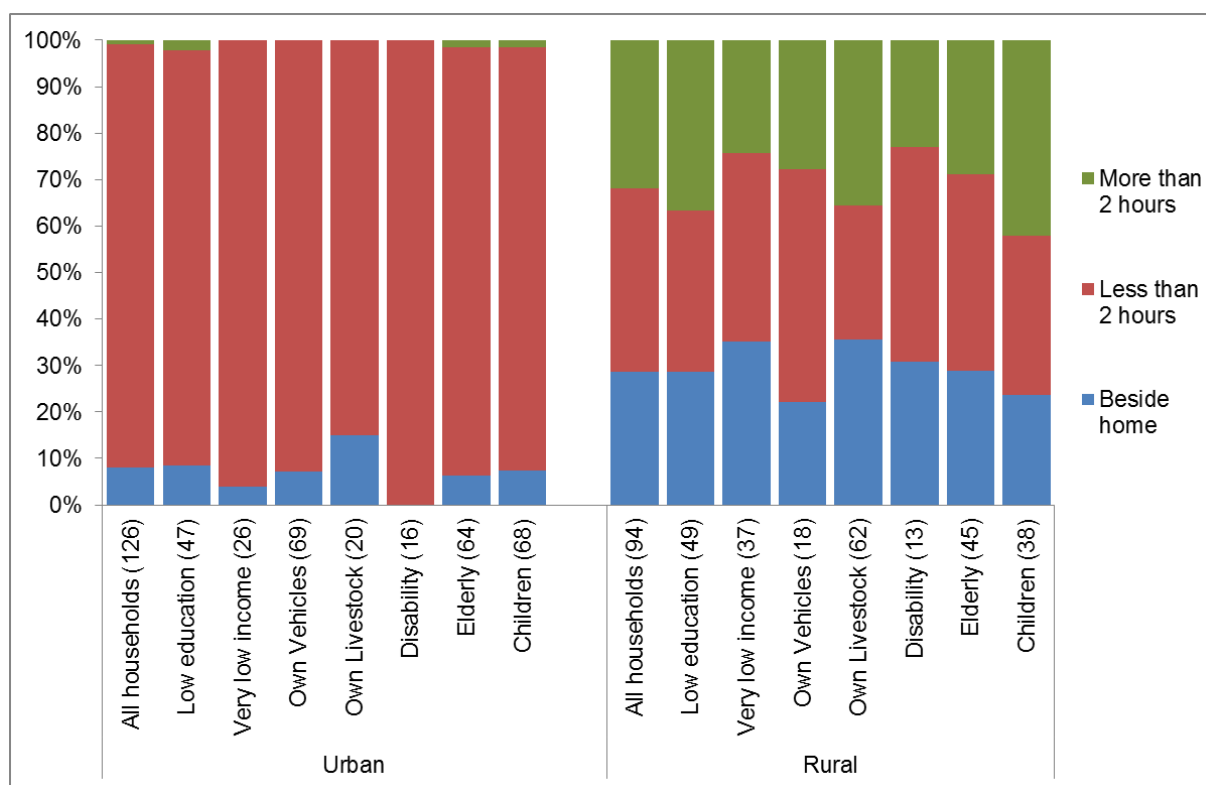


Figure 17: The distance that households must travel between their homes and their current shelter site for households from urban and rural areas and for different vulnerability groups

We noticed that many people who travelled for long distances were from landslide affected regions. These households came from villages that were completely destroyed in a landslide or in some cases were at risk from future landslides and generally travelled to lower altitudes in hope of avoiding landslide risk.

Despite the severe damage and the distance from their households, 98% of households said that members of their household had visited their house recently. Of those households, only 3% had slept in their houses. Most of the households reported visiting the house to check on it (86%) and 26% used the houses for toilet or bathing facilities.

### 5.2.3. Current shelter characteristics

We interviewed households across the affected area in many different types of shelter. Those households in shelters in urban areas were much more likely to be in official shelter sites than those which we interviewed in rural areas (Figure 18). In Kathmandu, and other urban areas, more people were in tents or emergency shelters created from tarps (Figure 19). Many of those households used the tents only for sleeping (often out of fear of aftershocks) and returned home during the day. In contrast, in rural areas, people were living in intermediate shelter (Figure 19). Many of these shelters were more elaborate, larger, organized and included areas for cooking, storage, sitting and working. Typically, intermediate shelters were made of salvaged CGI, timber, and bricks from their damaged houses and supplemented with materials given as aid or purchased after the earthquake. However, this distinction does not hold for households we found in rural official shelters. These households were mostly sheltered with tarpaulins and tents as in the urban camps.

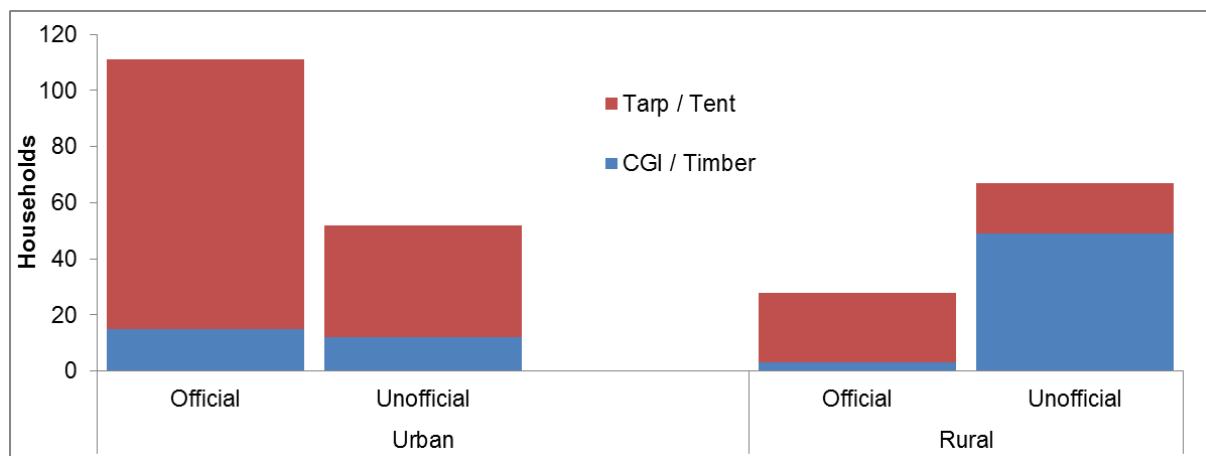


Figure 18: The types of shelter materials used in urban and rural shelters



Figure 19: Different shelter types visited. Top Left: Tents in Tudikel shelter in Kathmandu (Photo: S. Brink); Top Right: Typical tarp shelters in urban Kathmandu near Yellow Gumpa (Photo: J. Anhorn); Bottom Left: Typical intermediate shelter/housing in rural Jiwanpur VDC (Photo: J. Anhorn); Bottom Right: Inside of intermediate shelter/housing with multiple rooms in Dhading (Photo: S. Brink).

The top three reasons for why households chose to come to the shelter that they were living in at the time of the interview was protection from aftershocks (70%), nearness to home (58%), proximity to friends and neighbours (45%) (Table 2). Related to the theme of proximity are ownership of land (11%) and being close to work (8%). The other important themes were safety from landslides (11%) and access to food (13%).



*Table 2: Reasons households gave for choosing the specific shelter site that they were living in at the time of the interview*

Reason for choosing shelter	% of households
Protection from aftershocks	70%
Nearness to home	58%
Friends and neighbors	45%
Access to food	13%
Protection from landslides	11%
Ownership of land	11%
Access to water	10%
Access to other aid	9%
Nearness to work	8%
Road access	6%
Access to toilet	6%
Access to information	4%
Access to psychological help	3%
Access to education	3%
Access to medical help	2%
Access to skills training	0%

### 5.3. Vulnerability in shelter sites

#### 5.3.1. Difficulties in the shelter sites

Households discussed many different problems that they faced in the shelter sites. Many of the concerns they had related to services and aid available at the site with 42% citing issues with toilets, 34% citing problems with water and 19% saying there were issues with access to food (Table 3). Although most households had few problems with safety from aftershocks and landslides, many residents complained about weather issues including rain and heat.

*Table 3: The issues that households mentioned as problems in the shelters that they were living in*

Issues in the shelter	% of households
Access to toilet	42%
Access to water	34%
Access to food	19%
Access to education	10%
Protection from landslides	6%
Friends and neighbors	5%
Nearness to home	5%
Access to other aid	5%
Ownership of land	4%
Access to medical help	4%
Nearness to work	3%
Access to psychological help	2%
Access to skills training	1%
Access to information	1%
Protection from aftershocks	1%
Road access	0%

### 5.3.2. Household experiences since earthquake

We asked whether households had faced some common difficulties in the aftermath of the earthquake. The most common difficulty faced by households was insufficient protection from weather which 74% of households had experienced (Table 4). Many complained about the high temperatures inside the tents. Those from higher elevations in particular (e.g. Langtang VDC) are not used to such heat. Health and medical issues were common with 42% of households experiencing them and many mentioned issues that specifically related to living in shelters including diarrhoea and allergies.

Many households experienced difficult social and emotional issues. Emotional difficulties were extremely common with 58% of households experiencing them. The emotional impact of the earthquake and its impact on livelihoods was particularly devastating. Many people mentioned depression and uncertainty about how to get their lives back to normal. Additionally many people mentioned an increase in the use of alcohol, tobacco and drugs. The women were particularly vulnerable as 54% of households said that the women in that household had faced additional difficulties. Many households specifically pointed to issues with privacy including access to safe toilets, safe bathing places, areas to change, sleeping in family groups and difficulties with menstruation and pregnancy.

Many camps are created entirely of households which have relocated from other villages. These villages were able to maintain many of the traditional community functions with shelter management committees and even in one case a church built out of tarp. Despite these efforts to adjust, many of the households were struggling with the difficulties of adjusting to a new environment with some clashes with locals and many difficulties with the different climate.

There were also social difficulties with 33% of households experiencing unequal aid distribution, 11% experiencing discrimination and 19% being victims of crime. Many of these issues were related to property with thefts from homes or shelters. For the aid distribution households tended to cite cronyism with aid going to supporters of political parties or family and friends of those who distributed it or location with aid going to those who happened to be closer to the entrance of the shelter or in official sites. However, despite these difficulties, very few people felt socially isolated. In almost all interviews, we saw friends and families together and many mentioned the support of their community.

*Table 4: The difficulties that households had faced since the time of the earthquake*

<b>Difficulties</b>	<b>% of households</b>
Insufficient protection from weather	74%
Emotional difficulties	58%
Additional difficulties for women	54%
Health/Medical issues	42%
Unequal aid	33%
Crime	19%
Discrimination	11%
Social isolation	4%

### 5.3.3. Societal and Economic (Livelihoods) Issues

The earthquake has had a major impact on the economy. The earthquake directly damaged much of the investment that some of our survey respondents had built up, destroying shop buildings, killing livestock and burying property and savings under debris and landslides. In addition, the indirect impact of the earthquake to livelihoods was severe. Many households were unable to focus on their work in order to respond to the earthquake. One household had left tomatoes to rot in the field while building his temporary shelter. In addition, the response has had an effect as rules against new construction have affected workers in that industry.

We asked how much the earthquake had affected the ability of the household to generate income. Across all households, 70% said that the earthquake had affected the ability to generate income a lot (Figure 20, left). Only 9% of households said that there had been no impact. The impact was more significant in rural areas as 77% of households from rural areas and 64% of households from urban areas stated that the impact had been a lot. We analyzed the results according to main sources of income and pre-earthquake average monthly income (Figure 20, right). The impact of the earthquake is severe across all economic sectors. However, those households working in the services or government were most likely to say that their income had not been affected or were affected a little. The earthquake has exacerbated some of the vulnerabilities already existing in the society. Those households with the lowest pre-earthquake average monthly income were more likely to have a large impact on their income than those households in the highest income group.

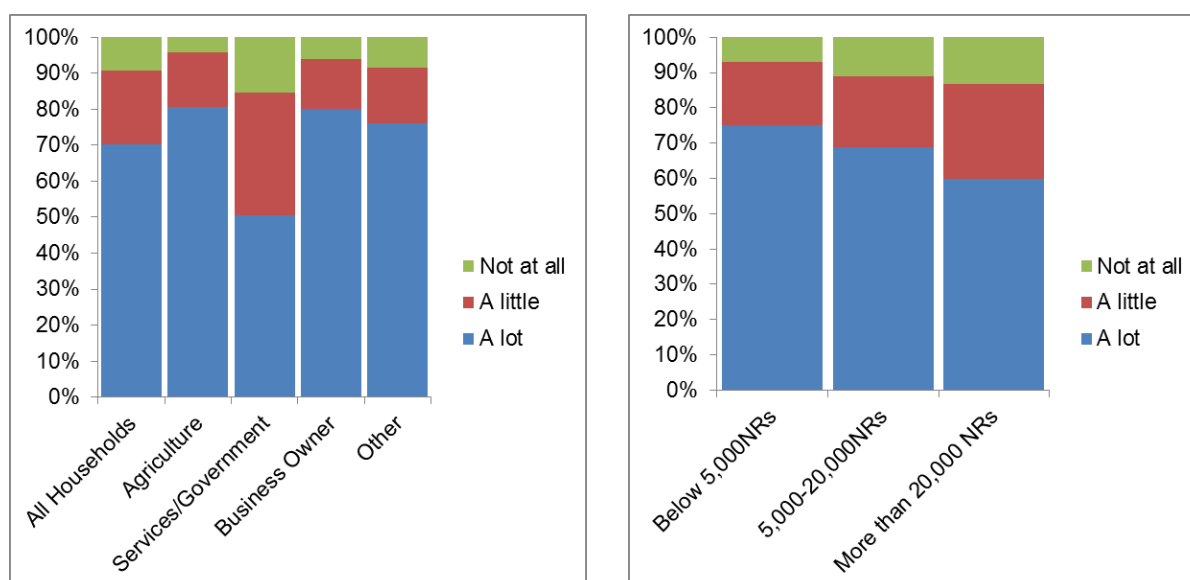


Figure 20: The impact of the earthquake on the household's ability to generate income disaggregated by (left) main sources of income and (right) pre-earthquake average monthly income.

### 5.4. Communicating needs and issues

A total of 67% of households described issues with services at their shelter site. Of those households from a site with a camp management system in place, 30% had contacted camp managers. It is unknown if their shelter issues are being resolved through such discussions, but camp management committees are in a good position to help households as they are meant to be accessible and appear to have better connections with government and other

agencies. At many shelter sites respondents stated that the creation of camp management committees was a requirement of the local government if they wanted to discuss issues.

For general issues not limited to the shelter site, 23% of households confirmed that they contacted someone from the government or other agency to discuss their needs or make complaints. Figure 21 details who the various households contacted and by what means of communication. Of those who contacted government or other agencies, a large majority (67%) contacted government offices at either the ward, VDC, municipality or district level. Only 6% contacted aid agencies.

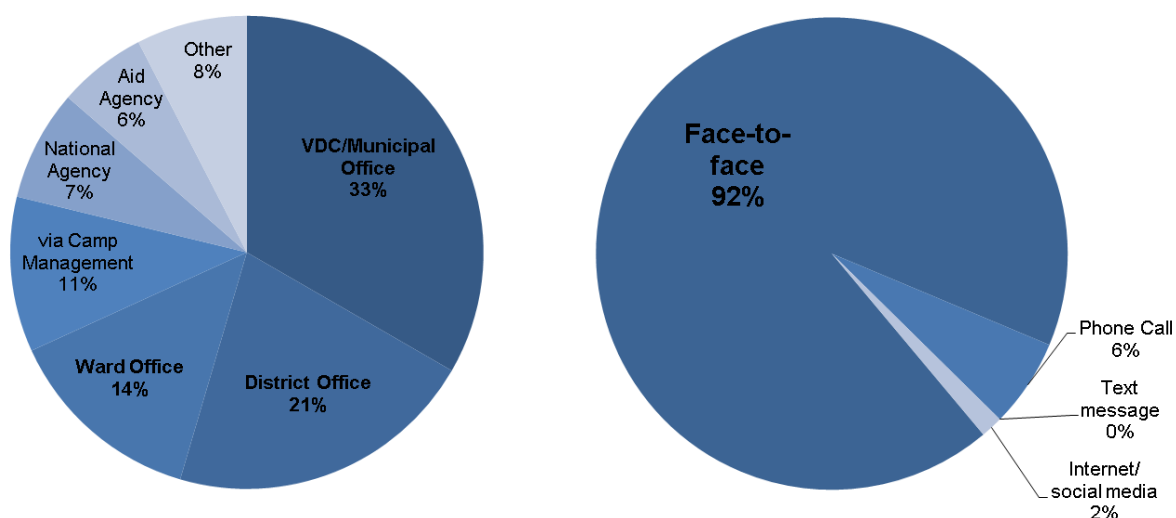


Figure 21: Communicating needs or issues, showing who households contacted (left) and their means of communication (right)

A common reason for not speaking with camp management or contacting government or other agencies was that households felt their needs/concerns would not be addressed. Others did not know who they could contact. Only 19% of people sheltering in urban areas contacted government or other agencies compared to 31% of people sheltering in rural areas, suggesting that government and other agencies are more accessible in those rural areas visited than in the urban areas or that households in rural areas had a greater need to contact those agencies. It should also be noted that none of the 19 households from rural areas that were residing in urban shelters contacted government or other agencies.

Almost all communication was done in person rather than over the phone, by text messages or online (i.e., social media). Households also obtain most of their information by word-of-mouth, particularly in rural areas. REACH (2015) found that the top three ways households received public information after the earthquake in the 14 most affected districts were word-of-mouth followed by radio and television. Figure 22 summarizes the findings per district.



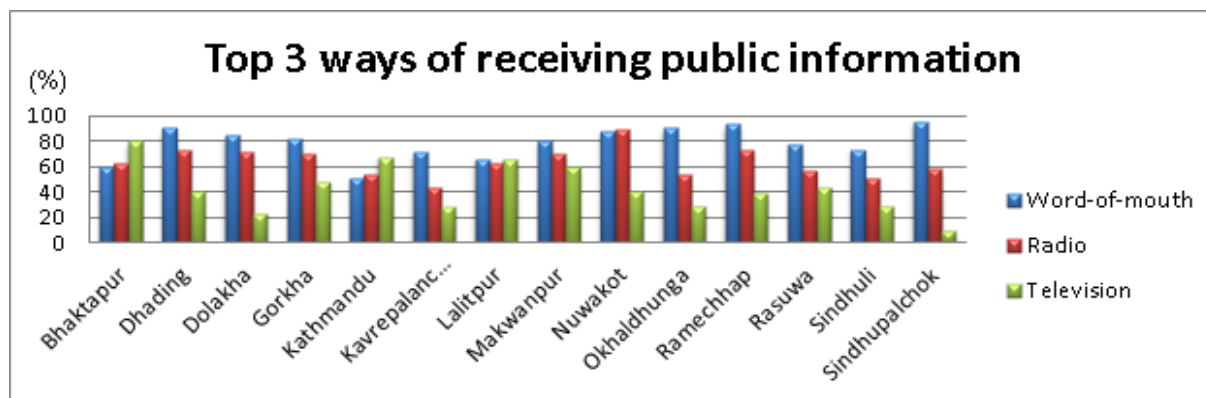


Figure 22: Top three ways of receiving public information, created with data from REACH (2015).

## 6. Emergent Issues affecting future shelter plans

### 6.1. Increase in Landslide Risk

Roughly 83% of Nepal is covered by hills and mountains, making the country very prone to landslides (Manandhar et al. 2013). Between 1971 and 2011 an average of 109 people per year were killed by landslides (UNISDR, 2011). A current emerging issue is that landslide risk is expected to increase due to the factors discussed below. The higher potential for landslides not only increases the risk to those directly on or near steep slopes, but it also decreases the access to earthquake affected communities due to blocked roads.

#### 6.1.1. Increase risk of landslides during monsoon

Figure 23 illustrates that fatal landslides in Nepal have historically occurred during the South Asian Summer Monsoon, peaking in July. This evidence appears to validate the current fear of landslides voiced by many of those interviewed who come from hill or mountain areas.

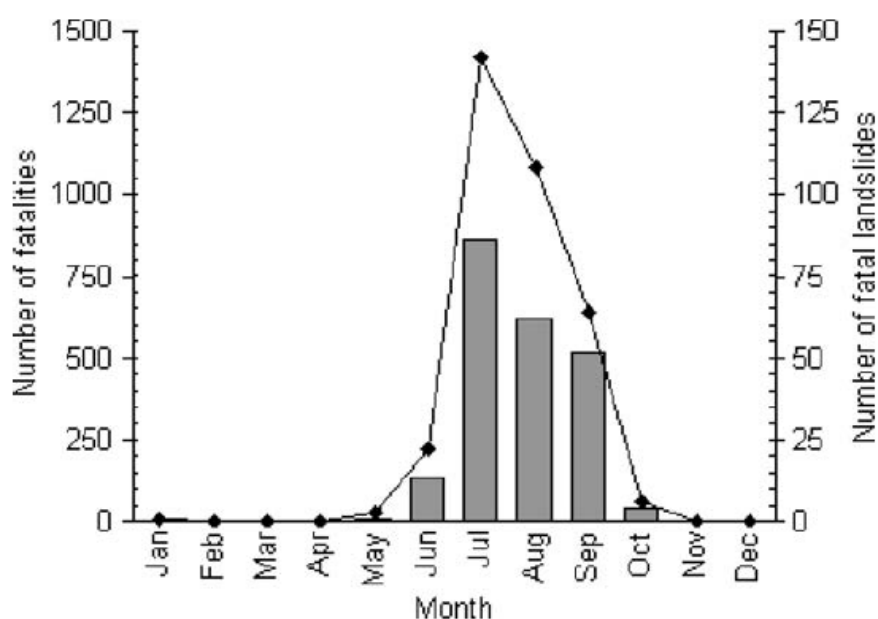


Figure 23: Graph showing the occurrence of landslides fatalities (bar graph, left hand scale) and the number of fatal landslides (line graph, right hand scale) by month for the period 1987-2005 for Nepal (Petley et al. 2007).

### 6.1.2. Increased risk of landslides due to the earthquake

The April 25th earthquake and subsequent aftershocks have already triggered over 3,000 landslides as of 25 June 2015 which is more than all reported landslides in the last 5 years (USAID, 2015). According to Earthquake-report.com (2015), landslides triggered by the earthquakes have caused 8-10% of the fatalities. UNOCHA (2015b) has warned that the number of landslides will be higher than normal this monsoon season as a result of the current instability of the soil caused by the earthquake.

The increased risk of landslides due to the earthquake is not expected to stop after this monsoon season. According to research following the 7.6 earthquake in Chi-Chi, Taiwan in 1999 and the 7.9 earthquake in Sichuan, China in 2008, the frequency of landslides increased substantially for years after these earthquakes (Lin et al. 2003; Bin et al. 2014).

### 6.1.3. Impact on short-term shelter planning

There is a clear awareness of heightened landslide risk due to the monsoon which is acting as a key driver in decision making for households from landslide prone regions. Many households stated that they would be deciding whether to go back or not to their place of origin after the monsoon. UNOCHA (2015d) describes a similar situation in Sindhupalchok where people appear to be waiting to see the impact of the monsoon and subsequent landslides before starting to rebuild. Figure 24 provides evidence of this, as a large percentage of households from rural areas are intending to leave shelter sites after the monsoon, potentially to return home. For many, the perception in this case is that the monsoon will “wash out” landslides in grounds made unstable by the earthquake and in the next year it will be back to the pre-earthquake regime.

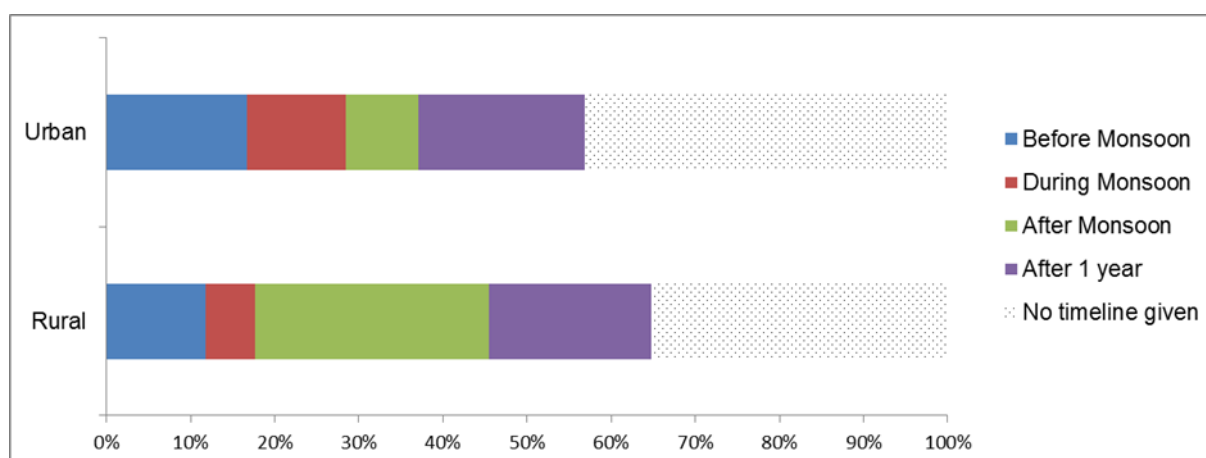


Figure 24: Timeline for leaving shelter site

### 6.1.4. Impact on long-term shelter planning

As discussed in Section 6.1.2, the increased risk of landslides resulting from the earthquake is a long-term issue which could last for many years. This emerging issue is already affecting long-term shelter plans. On June 30<sup>th</sup>, the Government of Nepal confirmed it would be relocating 56 villages/settlements, totalling 13,000 households from 18 districts within 15 days due to their risk to landslides (Himalayan Times 2015).

There was also an awareness of the long-term increased risk to landslides among some of the households interviewed. When asked what information was currently most important to them, some households stated that they needed to know if their area was safe against

landslides before they would move back. Some households also discussed the need to have experts assess the risk.

## 6.2. Coping with the monsoon

The monsoon season was a large concern for households in determining the length of time at the shelter sites. As it was illustrated in Figure 24, many households will be leaving their current shelter site before or during the monsoon. The majority of these are households from urban areas. In contrast, the majority of those waiting until after the monsoon to move away from their current shelter are households from rural areas. The reasons for this vary, and destruction of homes and fear of landslides have already been discussed. In addition to these is the inability to properly prepare for the monsoon. Even in normal years, many villages in rural areas become inaccessible during the monsoon, and so households stockpile food, gas, medicine, etc. The earthquake has impacted many household's ability to purchase goods. It has also made some physically (injuries, sickness, emotional distress) unable to carry out their normal monsoon coping strategies. Thus, for many reasons, families are deciding to stay put in their current shelter. Altogether, 77% of households may be staying in their current shelter site for the duration of the monsoon. The fact that 78% of households (Figure 25) stated that their current shelter is not adequate to protect them from the monsoon raises concerns about the safety of those staying in temporary shelter during the monsoon.

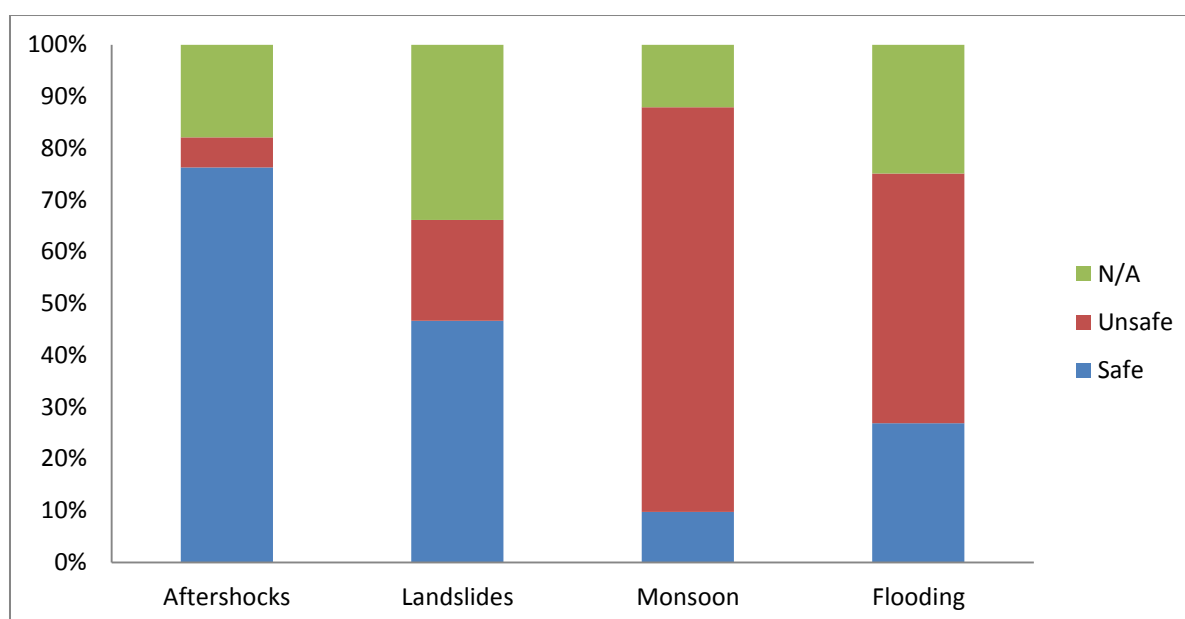


Figure 25: Perception of shelter protection.

While many may find relief from the heat during monsoon, the heavy rains, thunderstorms, flooding and strong winds, will pose greater risks to households still living in temporary shelters than those in permanent housing. Table 5 details some of the typical impacts caused by the monsoon on a yearly basis. It is estimated that these impacts will be even greater than usual as a result of the earthquake which has left more people vulnerable and increased the likelihood of occurrence of many impacts (UNOCHA 2015c).

Table 5: Typical monsoon impacts (Compiled with information from UNOCHA 2015c).

	Typical monsoon impacts
<b>Landslides</b>	Increased risk of landslides
<b>Flooding</b>	Increased risk of flooding
<b>Road access</b>	Decreased access to settlements due to blocked or washed away roads
<b>Air access</b>	Reduced window of safe travel time. Reduced helicopter access to higher altitudes due to rain and fog.
<b>Storage</b>	Increased risk of contamination and deterioration of food, medicine, and NFI due to rain and damp conditions.
<b>Health</b>	Higher risk of Diarrhea, Cholera, Typhoid, Dengue Fever, Malaria, Anaemia (for pregnant women), and Japanese Encephalitis (following monsoon).
<b>Water sources</b>	Increased risk of contamination

### 6.3. Risk to future earthquakes

The destruction of homes caused by the earthquake has made many households weary of building back the same. In particular, many whose homes were totally collapsed discussed different ways they would rebuild in a safer way, as described as follows:

- Will use earthquake resistant building techniques
- Will not build with masonry again
- Building only one storey structure
- Using CGI sheets instead of slate roofing
- Maintain their intermediate shelter
- Want to participate in training for building better
- Want to relocate so they can build in safe location

The risk to future earthquakes has already impacted short and long term shelter planning. The Government has currently imposed a two month moratorium on any new construction projects and limited current construction projects to two stories. During this time period the Government plans to review building code standards (The Guardian 2015). Households are therefore unable to reconstruct their homes currently, and await future direction from the government on how changes to the housing policy or building code may affect them.

### 6.4. Evictions from shelter sites

Attempts were being made to evict people from two of the shelter sites visited on June 18th in Kathmandu. Police were seen advising people by megaphone that they would need to leave the camp that day (see Figure 27). A letter stating the same was also posted at one site. An owner representative at one of the sites advised that because the site was private land, it was their responsibility to remove people from their property. A security personnel at the same site stated that there was no plan in place if people refused to listen to the eviction notice. Hence, it is not clear if forced evacuations will be undertaken in Nepal. The European Parliament (2015) has called on the Government of Nepal to “ensure that all displaced persons are protected against forced evictions and provided with safe options for return or relocation”. Shelter sites on private land, particularly those that did not provide permission to shelter there, may be at a greater risk of eviction than government sites.



Other sites that the team visited were also private. The land for a large shelter site visited in Dhading was private and the owner advised that rent would be required for the land but had yet to provide a rate or timeline for payment. At a shelter site in Dhading Bhesi, local politicians informed the team that the shelter site would need to be vacated within a week; however, the households interviewed were not informed of the potential closure of their site. In Nuwakot (Somudatrakhar VDC) there was a number of people sheltering on a school ground which was only provided to them for 3 months.

Evicting families from temporary shelter would be very detrimental to their ability to cope with the current situation, particularly those whose homes have been destroyed or severely damaged. Some households cannot even go back to their land because it has been completely lost to landslides.



Figure 26 Left: Official eviction notice (Photo: S. Brink); Right: Owner requests shelter site to be cleared protected by the police (Photo: J. Anhorn).

## 6.5. Household vulnerability analysis

### 6.5.1. Ability to leave shelter site

Households were asked how long they plan on staying at their current shelter site. As illustrated in Figure 27 only 63% of respondents were able to provide a timeline for when they would be leaving the shelter site. More households from rural areas were able to provide a timeline (68%) than households from urban areas (60%). Roughly half of those that could not provide a timeline for leaving the shelter site said they did not know, and the other half said that it depended on external factors such as homes being rebuilt or finding rental units, the environment being safe, being forced to leave, the end of the aftershocks, obtaining financing or other similar factors.

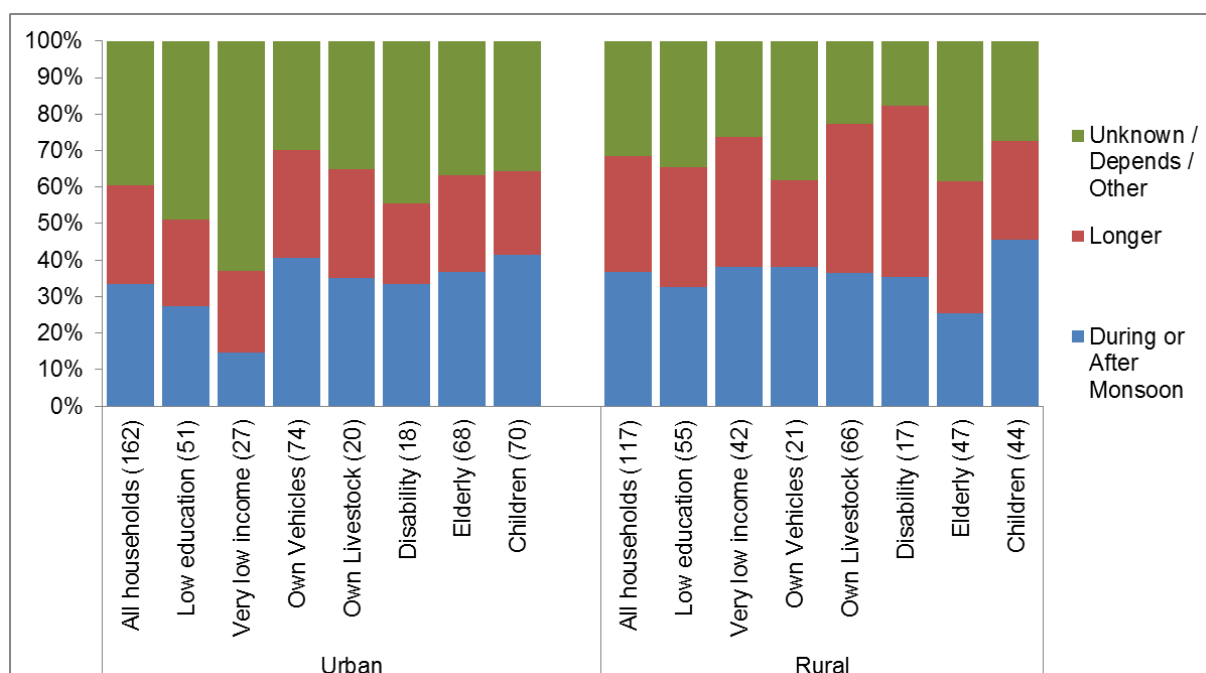


Figure 27: The length of time households plan to stay at the current shelter site compared to various indicators of vulnerability.

We applied indicators of vulnerability to our analysis of the timelines to determine which of these factors had the greatest influence on a household's ability to leave the shelter site. Within urban areas, those with low education and low income were those least likely to plan to leave by the end of the monsoon and the least likely to have a timeframe to leave. Those households which owned vehicles (which may be a proxy for wealth) were the most likely to plan to leave earlier and to have a timeframe for leaving the shelter site. One common factor over rural and urban areas is that those households which owned livestock were more likely to plan to return home sooner and more likely to have a time frame on when they would be returning. This may be related to the need to take care of their livestock and may also be related to wealth and less damage (as landslides and severely damaged buildings can kill livestock).

### 6.5.2. Ability to establish permanent housing

In the survey we also included a longer time frame question asking how long households expected to take to return to permanent housing if they were not provided with financial assistance. Similar to the question on the length of time to stay in the shelter, households from rural areas generally gave longer time frames than households from urban areas. Many households from both areas were unable to conceive of the ability to return to permanent housing without financial assistance. Many referred to the length of time it had taken them to save up and build their previous house and others simply said it would be impossible. Of the 210 households that were able to provide a timeline, 27% percent of households in urban areas and 32% of households in rural areas felt that it would take them more than 10 years to return to permanent housing without financial assistance (Figure 28). However, in contrast many households had already started to think about demolishing their homes, repairing or rebuilding and they had a plan to return to permanent housing. Thirty percent of households from urban areas and 41% of households from rural areas stated that they would be able to return to permanent housing within 2 years even without financial assistance.

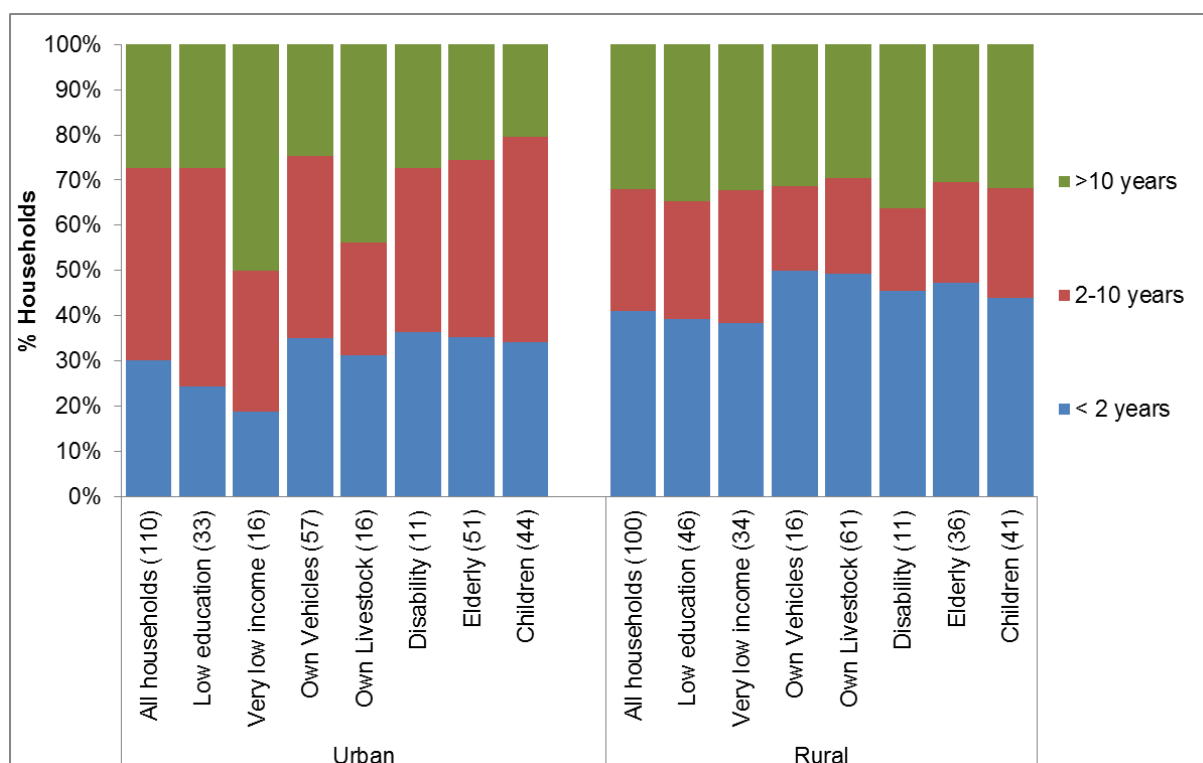


Figure 28: The length of time households expect it to take to return to permanent shelter without financial assistance compared to various indicators of vulnerability

The time to return to permanent housing was analyzed with respect to various indicators of vulnerability. In this case, for both rural and urban areas households that had low income and low education said that they would require longer to return to permanent housing.

This analysis shows the variance in both the impact and the vulnerability. Although there are many displaced households which are able to recover from the earthquake within a reasonable time period, there are also many for whom the loss was large enough to make the possibility of recovery virtually impossible to imagine.

## 7. Governmental Shelter Planning and Transition Strategies

### 7.1. Current Needs of Displaced Population

Emergency shelters were established immediately in Kathmandu with official support in designated public spaces. The humanitarian challenge of displaced populations became immediately apparent as millions of people whose houses were either destroyed and those who were fearful of imminent aftershocks started camping out in the open. This put a tremendous demand on the government and philanthropic associations for materials to erect makeshift shelters and to supply essentials.

At the time of the reconnaissance visit, more than a month after the disaster, the displaced populations in rural areas were moving away from transit shelters in camp sites to build intermediate shelter next to their damaged homes. In the case of Kathmandu Valley, eviction notices were given to displaced people in shelter sites by the Municipality and the population in tented camp sites was rapidly declining. However, according to the IOM Displaced Traffic Matrix (DTM) as of 30th June, 87,995 IDPs are reported to be living in temporary or transitional Priority Site shelters as of 8 July 2015 mostly in rural areas in the central and

western region of Nepal to be safe from landslide and rain. This number had decreased by about 15 percent already by July 8<sup>th</sup> to 75,874 IDPs. It will take time to reconstruct and as such the transitional stage from temporary to permanent housing is very important. The government has calculated temporary shelter needs for 2015/2016 to be approximately 147,000,000 USD (GoN-NPC 2015).

The following is a summary of key needs of displaced populations encountered during the reconnaissance visit:

**Income generation** - Displaced population in rural areas are heavily dependent on agriculture for livelihood, which the earthquakes and the ensuing landslides have damaged. Furthermore, these districts have a higher per unit livestock than the national average. From those we interviewed, 58% of households from rural areas owned livestock and 60% identified agriculture or livestock as their main source of income. The widespread loss of livestock will potentially cause a severe income shock in the short term. Some of the affected districts such as Gorkha have a skewed female population due to male out-migration, which means women will take on a larger responsibility of rebuilding sectors like agriculture and livestock. These rural districts also face a wide revenue-expenditure gap, suggesting the need for transfer of funds to meet the local development and reconstruction tasks in the years ahead (GoN-NPC 2015).

**Training in earthquake-resistant construction** – With the high overall damage to homes discussed in Section 2 and the high interest to rebuild in a safe way as discussed in Section 6.3, there will be demand for training in earthquake-resistant construction techniques. In fact, 24 percent of persons interviewed indicated they would like to receive such training. It will be important to coordinate construction improvement and training efforts with the Nepal government agencies, as they have produced guidelines and training sessions in the past which will provide valid starting points for improvements to current building practices. Access challenges in remote and rural areas can also make introducing new construction materials problematic. Working with the commonly used materials and developing improved detailing and construction practices would likely be the most effective way to create positive changes in earthquake resistant building construction that would reach the greatest number of the Nepali people (Build Change 2015). The Government report recommends a comprehensive certificate program to train 20,000 construction professionals (GoN-NPC 2015). Training is crucial, as evidenced by many of those interviewed which identified ‘knowledge of earthquake resistant construction’ as a priority information need.

**Public communication and hazard education** – As noted in Section 6.1 and 6.3, the displaced population interviewed have a heightened perception of landslide and earthquake risk and there is a clear need for public education on topics ranging from the likelihood of aftershocks and landslides to earthquake prediction science, recommended earthquake preparedness measures, and the importance of adhering to earthquake-resistant codes and standards during the reconstruction process. During the June 2015 reconnaissance visit, the overall impression was that of a community whose residents were deeply concerned about the potential for additional damaging landslides and earthquakes in the future, but lacked information on what might be done to mitigate and prepare for such events. It is important to note that based on the evidence provided in Section 5.4, households in shelter sites typically communicate their needs face-to-face and receive information by means of word-of-mouth. With the monsoon cutting off access to many areas and making travel less convenient and in some cases dangerous, it will be important to find alternative methods of communicating with



households in shelter sites. Initiatives have begun to inform the affected population. The Communicating with Communities (CwC) Working Group under UNOCHA has been critical in promoting two-way communication with affected communities. CwC has been generating common messages (in radio and poster form) to be provided to the public in a variety of topics from aftershock and landslide risk, to sanitation and hygiene, and has been promoting projects such as Open Mic Nepal which attempts to dispel rumours by providing facts from the government about current issues such as landslide risk, demolition, and compensation. Such projects will be critical to keeping the public informed of the most up-to-date and relevant information on risk and recovery.

**Protection of vulnerable populations** - The earthquake severely impacted most of the households interviewed and Section 5.3 discussed even further difficulties experienced by a majority of households since the earthquake. The overall effects have left many families questioning how they will rebuild their lives. Families are deploying different coping mechanisms to deal with the disaster, including distress sales of assets and receipt of remittances. However, for vulnerable families, the loss of assets combined with the loss of family protection, and desperation for alternate livelihoods could have disastrous consequences on women, girls and children who may face heightened risk of sexual and gender-based violence, human trafficking, child marriage, and child labor (GoN-NPC 2015).

## **7.2. Lessons learned for future shelter response planning**

In 2010, the International Organisation of Migration compiled a report on camp site selection for potential Internally Displaced Persons (IDP) in Kathmandu Valley (IOM 2010) in which they laid out a potential scenario of sheltering 900,000 persons within Kathmandu Valley during a major earthquake with 60% of buildings destroyed and up to 40,000 fatalities. They identified 83 open spaces as potential sites for initial response and assigned them specific uses (MoHA & IOM 2013). In January 2014, the Shelter Cluster Nepal updated its Contingency Plan for the Coordination of Shelter Preparedness and Response in Nepal (Shelter Cluster Nepal 2014) from 2009 using a similar earthquake scenario. They calculated and anticipated capacity of the Kathmandu Valley to hold 710,000 people. The earthquake on April 25 was not the worst-case scenario postulated in the contingency plan, but serves as a major first event testing the response planning framework for the Government and partner agencies. Table 6 provides a comparison of the actual event with the Shelter Cluster contingency plan scenario event.

Table 6: Comparison of 7.8 magnitude earthquake on April 25th 2015 with scenario event.

	Contingency Plan for Kathmandu Valley Scenario Event <sup>a</sup>	Gorkha Earthquake 25 <sup>th</sup> April 2015
Fatalities	44,000	8,712 official (as of 5 <sup>th</sup> June) <sup>b</sup> ; 7,560 modeled median <sup>c</sup>
Injured	103,000	22,493 official (as of 5 <sup>th</sup> June) <sup>b</sup>
Affected	1 to 1.5 million	About 3 million people <sup>b</sup>
Shelter capacity and management	64 designated large shelter sites with a total capacity of 710,000 persons in the Kathmandu Valley	122,557 IDPs in 493 shelter sites <sup>d</sup> 219 priority sites with more than 50HH 174 other non-priority sites <sup>d</sup>
Outmigration	Up to 625,000 people will attempt to leave Kathmandu Valley	300,000 are estimated <sup>c</sup>
Physical Impact	Large amounts of debris, airport unusable	Airport temporarily shut-down for large cargo planes on Sunday 3 <sup>rd</sup> May, two incidents on air traffic with four and eight casualties <sup>f</sup>
<sup>a</sup> Shelter Cluster 2014 <sup>b</sup> GoN 2015 <sup>c</sup> Daniell et al. 2015a <sup>d</sup> IOM DTM 2015 <sup>e</sup> UNOCHA 2015f <sup>f</sup> UN OCHA Monthly Situation Update		

Key assumptions tested during this event in terms of sheltering behavior of displaced populations:

**Designated open spaces vs. spontaneous sites:** In terms of evacuation behavior, it was anticipated in the government shelter response plan that displaced populations would congregate and seek shelter in designated large open spaces. The shelter response plan accounted for only 5% of the population sheltering in open spaces near their homes and was counting on the remaining 95% to seek shelter in the designated open spaces. Instead it was found that a large portion of the displaced population sheltered at spontaneously-formed and scattered camps throughout Kathmandu Valley instead of the designated open spaces. Furthermore, in-place sheltering close to their homes was favoured by many residents as they prefer to stay close to their homes, food reserves, livelihoods and social ties.

**Managed vs. unmanaged sheltering:** The response plan calls for managed shelter sites in suitable open spaces. The experience from this event showed that displaced populations will use all kinds of shelter including repairing their homes, creating makeshift spontaneous shelters, moving to friends and family members outside the city or even the valley as an alternative to moving to planned shelter sites. Considering the scale of the scenario earthquake, spontaneous shelters were considered almost unmanageable and would result in chaotic circumstances in the shelter response plan. The experience from this event shows that spontaneous sheltering behavior and self-management of these sites should be accommodated and supported in the shelter response strategy.

**Migration out of the valley:** The response plan estimates 625,000 people will attempt to leave Kathmandu Valley for a catastrophic earthquake scenario affecting the valley with over

44,000 estimated fatalities just in the valley. Early estimates after the earthquake reported that 300,000 people attempted to leave in an earthquake in a much more moderate earthquake with respect to damage to buildings and casualties in the valley (i.e. the official casualty estimate in all affected areas was 8,712). Given the experience in this event, the shelter response plan should very likely accommodate a higher outmigration than currently estimated, but also migration from rural areas into the urban areas was widely observed by the reconnaissance team which has to be considered in the shelter response planning.

### 7.3. Relocation and Reconstruction

Following the 22 June declaration by the Government of Nepal, the relief phase has ended and transition to the reconstruction phase has been initiated (UNOCHA 2015a).

#### 7.3.1. Recovery and Reconstruction Needs

The Post-Disaster Needs Assessment (PDNA) carried out after the Nepal earthquake estimates the damage at US\$ 5.17 billion, losses at US\$ 1.9 billion and recovery needs at US\$ 6.6 billion, roughly equivalent to a third of the Gross Domestic Product (GDP) of Nepal. Early World Bank (WB) estimates suggest that an additional 2.5 – 3.5 percent of the population has been pushed into poverty as the earthquake disproportionately affected the poorer, rural locations relative to the urban and less poor areas. Roughly 50 to 70 percent of the increase in poverty will come from rural central hills and mountains where overall vulnerability prior to the earthquake was already high. Furthermore, the widespread loss of food stocks, potential loss in crop productivity and loss of livestock as well as small scale enterprises will likely cause a severe income shock for women who rely on this sector (GoN-NPC 2015).

Over half a million houses were destroyed by the earthquake, and among the 23 sectors covered by the PDNA, the most heavily-impacted sector by far is housing. Damage to private property such as residential buildings, commercial buildings, farmland and livestock accounts for about US\$ 3 billion in damage and about half of the recovery costs. It should be noted that while calculating the recovery costs, the replacement value, particularly with respect to the housing sector is not considered. The recovery costs specifies a core house with a minimum area as the recovery need, and estimates the total needs on the basis of the cost of construction per square feet. The loss of poorly built residential houses, farmland and livestock will amplify the income shock and push poor households below the poverty line for an extended period if reconstruction and rehabilitation activities are delayed (GoN-NPC 2015).

#### 7.3.2. Key Considerations in Recovery and Reconstruction

The objective of the government of Nepal in its recovery and reconstruction program is to promote the principle of Building Back Better (BBB). As the displaced population transition from intermediate shelter to permanent, the following presents a list of key issues to be considered in the recovery and reconstruction strategy:

**Urban vs. rural economy** - Disproportionate impact to the poorer rural districts and the distinction between the urban and rural economy of such districts – the rural districts are heavily dependent on agriculture for livelihood, which the earthquakes and the ensuing landslides have damaged – will play a major role in the resettlement and reconstruction strategy of Nepal. Rural populations have built their homes over many years in multiple phases and it will take them a longer time to recover and rebuild.

**Needs of vulnerable population** - Gender equality and social inclusion will also be drivers in the resettlement and reconstruction process as women, Dalits and some ethnic groups have limited ownership of land, which could hinder their participation in the housing recovery program and the benefits accruing from them. Senior citizens, female-headed households and people living with disabilities have also been adversely affected as many do not have the means to reconstruct their houses.

**Retrofit vs. replacement** - The type of materials and construction practices commonly utilized in Nepal are unlikely to make attempts at retrofitting most damaged buildings economically feasible, however in some cases it may be possible (e.g., concrete frame buildings, where the frames have sustained minimal or no damage, it could be possible to replace damaged masonry wall panels). In most cases, however, replacement of the damaged houses may be necessary (Build Change 2015). Given the difficulties of access to remote villages, delivery of materials will be difficult. As observed during the reconnaissance mission stones, bricks and blocks that can be salvaged were already reused in the development of intermediate shelters and are likely to be reused during the reconstruction.

**Multi-stage construction practice** - Construction in Nepal typically takes place over many years. A common theme seems to be that a single level home is first built, with additional stories added as more money for further construction becomes available. The reconstruction policy has to accommodate planning over a multi-stage period consistent with earthquake-safe practice. The estimated number of homes to be reconstructed is 609,938 (GoN-NPC 2015).

**Resettlement of landslide-affected villages** - As the need for recovery is immediate and urgent, people have already initiated efforts. Many of the most affected displaced populations in villages and settlements whose homes and livelihoods were wiped out by landslides have resettled on safer ground in temporary shelter sites or in some cases permanently. As discussed in Section 6.1.2 the increased landslide frequency in unstable ground during the monsoon will further influence the resettlement strategy which will be either self-driven by the heightened risk perception of the affected communities or mandated by the government.



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## Appendix I – Household-level Shelter Survey (HSS)

### Survey Design

The Household-level Shelter Survey captures information in terms of the following categories:

1. Displaced household profile
2. Impact of earthquake on household and sheltering decisions
3. Vulnerability to adverse effects in sheltering situation
4. Communication aspects
5. Future intentions to rebuild

**Displaced household profile:** The HSS characterizes the displaced household's profile in the following categories:

1. Demographic and livelihood characteristics,
2. Distance of shelter location to place of origin,
3. Mobility,
4. Home and property ownership, and
5. Income level

**Impact of earthquake:** The HSS seeks to measure the household's decision to seek different shelter options by evaluating the earthquake's impact to the displaced household in terms of the following categories:

- Ability to generate income
- Casualties
- Damage state of home
- Habitability of home (i.e. safety from aftershocks/landslides, protection from weather, access to drinking water, electricity, etc.)

To better understand household's decisions to leave home and seek shelter, the HSS also includes a set of additional questions:

- History of the household's sheltering options from the first night after the earthquake
- Main reasons for visiting home (if house was recently visited by a household member)
- Main reasons for choosing the shelter site

**Shelter Situation:** The HSS is designed to measure vulnerability to adverse effects of displacement in sheltering sites by investigating:

- Difficulties experienced associated with displacement (e.g., crime, emotional difficulties, discrimination, social isolation, etc.)
- Main problems with the shelter site
- Perception of safety (i.e. from aftershocks, landslides, monsoon, etc.) Of the shelter site

**Communication Aspects:** To better understand the communication processes of displaced population the HSS focuses on who the displaced information is contacting for seeking information and what their mode of communication is.

**Future Intentions:** the HSS has a dedicated section on future intentions of the household which include how long they plan to stay at the shelter site, how long do they anticipate it would take them to return to permanent accommodations and how do they plan to rebuild and/or repair their house.



### Survey Pilot Testing

The survey was pilot tested in an urban formal tent shelter camp in Kathmandu as well as at a spontaneous site in a rural area of Lalitpur where intermediate shelter camps were constructed. The primary objective of the pilot test was to identify areas of the revised questionnaire or interviewer procedures that were problematic for interviewers or respondents. The information collected was used to identify questions that needed revision, and to modify initial interviewer training process. A secondary objective was to obtain information about the questionnaire, interviewer behavior, or respondent behavior that would help in adjusting the original questions when problems were discovered.

### Training of Interviewers

To scale the interviews and collect sufficient data during the brief reconnaissance mission additional interviewers had to be trained by the CEDIM/SAI trainers. Trainings took place on June 11, 2015 with 11 additional Nepali interviewers - 4 interviewers were members from a local NGO AAROH "A rise of hope" and the other 7 were Master students in urban planning or environmental science from Tribhuvan University. Interviewers can be a significant source of error that is difficult to control. Ensuring that interviewers execute the HSS properly requires that they be trained and there is opportunity for feedback. The primary objective of the training was to minimize survey errors by achieving consistent application of established interview protocols across interviewers and sites. During a 3 hour training session the CEDIM/SAI trainers provided a comprehensive presentation on the HSS questions, explanation of interview protocols and definition of terms. Feedback from the interviewers during a question and answer session completed at the close of an initial pilot test ensured the delivery of a more consistent and standardized interview process.

### Conducting Interviews

Two hundred and eighty-four surveys were conducted from June 12 - 19, 2015 by 15 interviewers after the initial pilot testing and finalization of the survey instruments. Fifty-six interviews were conducted by the CEDIM/SAI, NSET and independent consultant interview team in Dhading and Nuwakot from June 12 - 16. The remaining 228 surveys were conducted by the trained Nepali interviewers in the Kathmandu Valley (Kathmandu, Lalitpur and Bhaktapur) and Sindhupalchowk from June 12 - 19. The CEDIM-SAI researchers paired with the trained Nepali interviewers in the Kathmandu Valley and Sindhupalchowk from June 17 - 19.

To conduct the interviews, each member of the CEDIM-SAI research team paired up with a Nepali translator. During the interviews in Dhading and Nuwakot districts one researchers from CEDIM-SAI paired with one researcher from NSET or the independent consultant and stayed together for the duration of the surveys in these districts. As there were 4 females and 4 males amongst the researchers, the teams were paired so that each team had a male and female interviewer. One interview takes an average of 30-45 minutes depending on the level of follow up on the qualitative questions during the interviews.

To conduct the survey, the interviewer notes the shelter location, type and material used. One person who may or may not be the household head may provide all of the HSS data for the entire sample unit, provided that the person is a household member 15 years of age or older who is knowledgeable about the household. The age and gender of the person who responds for the household (i.e. household respondent) is noted. Information collected from the household respondent for other members of the household is referred to as proxy response. The surveys were conducted in Nepali and annotations were noted on the survey

sheet in English. Key research questions were discussed with all interviewers during the training. This provided opportunities for qualitative follow-up questions in the surveys which were documented in a designated area of the survey sheets.

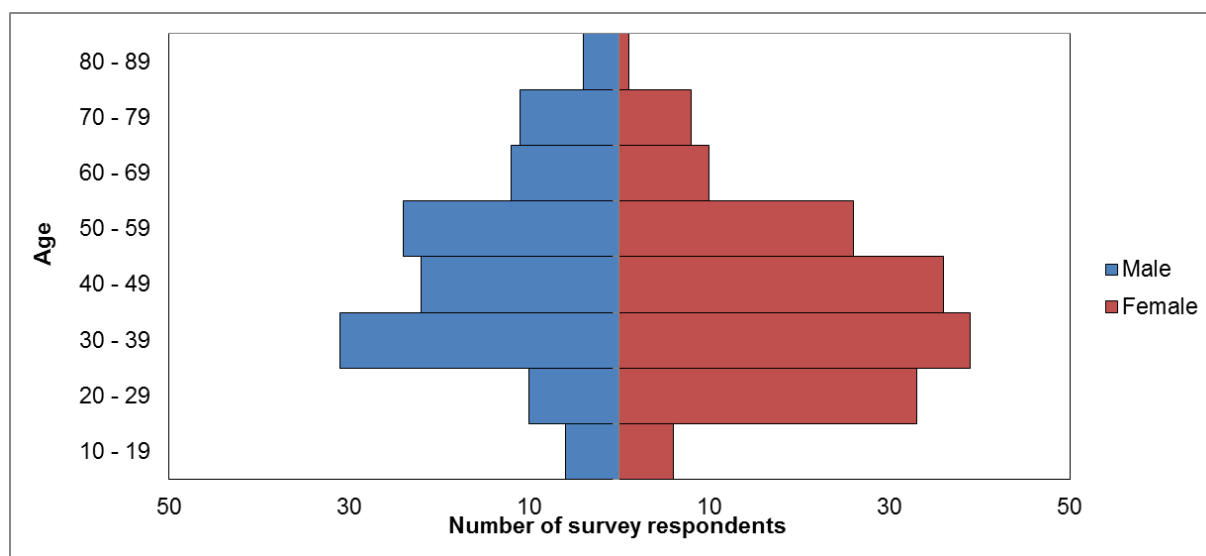


Figure 29: Age distribution of household respondents in the Household Shelter Survey (HSS).

### Interviewer Debriefing

At the end of each day of surveys by the research team an interviewer debriefing took place. The primary objective of interviewer debriefing was to discuss key issues that came up during the interview and identify common patterns. The focus was on the qualitative aspects of the interviews were the interviewers followed up on certain aspects of the survey such as the fear of landslides, the intentions to rebuild, the communication with public authorities, etc. By exchanging the narratives found in the interviews, the debriefing session provided the interviewers who carried out their interviews independent of each other often at different sites a larger perspective of the sheltering situation.

### Overview of Data Quality

The results from the survey were digitized by a group of interviewers. Once, aggregated, basic quality checks were done to ensure that results had been entered correctly by checking data types and range. Where inconsistencies were found, the original survey was reviewed.

The survey invariably has limitations due to the short time frame in which the survey was prepared and conducted, but these were minimized by working closely with local translators and interviewers throughout the process of writing, formatting and translating the survey. In general the interviewers and interviewees reported that the survey did not have significantly complex or unclear questions or answers.

In total 284 surveys were conducted. However, in some cases there are blanks where interviewers were unable to complete the survey, felt uncomfortable asking questions or did not feel that the answers fit the options. Interviewers were encouraged to write on the survey any additional notes. These notes have been digitized and wherever possible these have been incorporated into the analysis in order to clarify uncertain results.

In the analysis, we have omitted blank answers and grouped answers with few respondents in order to limit the impact of outliers.



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SEIT 1386



Interview code \_\_\_\_\_  
Shelter Site \_\_\_\_\_  
District \_\_\_\_\_  
Municipality/VDC \_\_\_\_\_  
Ward \_\_\_\_\_

## Household Shelter Survey

<b>INTERVIEWER</b> (please fill in before the interview):		Interview code _____ (name + number)
Household head? Yes / No		Interview date _____
Gender: Male/ Female		Time _____
Age _____		Camp Type: Official / Other _____
Location _____		Materials used _____

Namaste, my name is \_\_\_\_\_. I am working for Research work by KIT and Heidelberg University, academic institutions in Germany and NSET, a NGO of Nepal. We are conducting this study to learn about shelter.  
The questions usually take about 30 minutes. All the answers that you give will be confidential and will only be used for research purposes. No part of this interview is being recorded in tape or video. You don't have to be in this survey, but we hope you will agree to answer the questions since your views are important. If I ask you any question you don't want to answer, just let me know and I will go on to the next question or you can stop the interview at any time.

नमस्ते मेरो नाम \_\_\_\_\_. हो । म जर्मनीको शैक्षिक संस्था KIT and Heidelberg University र नेपालको नैसर्गिक NSET द्वारा संयुक्त रूपमा सञ्चालित अनुसन्धानको यस कार्यमा संलग्न छु । हामी बासस्थान सम्बन्धी जानकारीको लागि यो अनुसन्धान कार्य गर्दैछौ । यो प्रश्नावली करीव आधा घण्टा जतिको हुनेछ । यो सर्वेक्षण अनुसन्धान कार्यको लागि मात्र प्रयोग हुनेछ र यसबाट प्राप्त सूचनाहरू अनुसन्धान समूहभित्र रहनेछ । हाम्रो कुराकानी रेकर्ड गरिएको छैन । यस सर्वेक्षणमा तपाईं सहभागी हुन वा नहुन पनि सक्नु हुन्छ । तपाईंलाई कुनै प्रश्नको जवाफ नदिन पनि सक्नु हुनेछ र यो सर्वेक्षण कुनै पनि समयमा रोक्न सक्नु हुनेछ ।

HOUSEHOLD PROFILE		
#	Question	Answers (Do not read out unless translated and in <b>bold</b> !) Write in English and fill circles (no tick or cross marks)
1a	What is your family name? तपाईंको नाम/ घर के हो ? (Write caste –not name)	Caste: _____ <input type="radio"/> Brahmin <input type="radio"/> Chhetri <input type="radio"/> Dalit <input type="radio"/> Other
1b	Which district did your household live in before the earthquake? Which VDC or Municipality? Which Ward? तपाईंको परिवार भूकम्प जानु भन्दा अगाडि कुन जिल्ला, गाविस/नगरपालिका, वार्डमा बस्नु हुन्थ्यो ?	District जिल्ला _____ VDC/Municipality गाविस/नगरपालिका _____ Ward वार्ड _____
1c	How long has your household lived in your neighbourhood? तपाईंको परिवार त्यस ठाउँमा कति समय देखि बस्दै आउनु भएको थियो ?	<input type="radio"/> Less than 5 years <input type="radio"/> 5 to 10 years <input type="radio"/> 10 to 20 <input type="radio"/> More than 20 years
2a	How many persons were living in your household before the earthquake? तपाईंको घरमा कति जनाको परिवार हुनुहुन्छ ?	_____
2b	How many members of your household are at this shelter site? तपाईंको परिवारका सदस्य कति जना यहाँ बस्नु हुन्छ ?	_____
2c	How many of these are under 5 years? कति जना ५ वर्ष मुनिका हुनुहुन्छ ?	_____
2d	How many of these are 60 or over? कति जना ६० वर्ष माथिका हुनुहुन्छ ?	_____
2e	Did anyone in your household have a disability prior to the earthquake? कोही शारीरिक रूपमा असक्त हुनुहुन्छ ?	<input type="radio"/> Yes छ <input type="radio"/> No छैन
2f	What is the highest level of education by any members in your household? तपाईंको परिवारमा सबैभन्दा बढी कतिसम्म पढेको हुनुहुन्छ ?	<input type="radio"/> No school औपचारिक छैन <input type="radio"/> Some primary school प्राथमिक स्तर <input type="radio"/> Completed primary school प्राथमिक स्तर पुरा <input type="radio"/> Some secondary school माध्यमिक स्तर <input type="radio"/> SLC एस एल सी <input type="radio"/> Some university/college क्याम्पस/विश्वविद्यालय <input type="radio"/> University/college graduate <input type="radio"/> Don't know थाहा छैन

2g	How long does it take you to travel between your home and this shelter? तपाईंको घर देखि अहिले बसेको ठाउँमा आउन कति समय लाग्छ ?	_____day(s) दिन /hour(s) घण्टा /minutes मिनेट
2h	Does your household own any vehicles? तपाईंको परिवारसँग कुनै सवारी साधन छ ?	By _____ (mode) <input type="radio"/> Car कार <input type="radio"/> Motorcycle मोटरसाइकल <input type="radio"/> Bicycle साइकल <input type="radio"/> None छैन
2i	Does your household own any livestock? तपाईंको घरमा गाईबस्तु छन् ?	<input type="radio"/> Yes छ <input type="radio"/> No छैन
3a	Do you own or rent your house? तपाईंको परिवार आफ्नै घर वा बहालमा बस्नुहुन्छ ?	<input type="radio"/> Own आफ्नै घर <input type="radio"/> Rent भाडामा <input type="radio"/> Other अन्य
3b	(If house owner) Do you have ownership documentation to your land? तपाईंसँग आफ्नो जग्गाको लालपुर्जा छ ?	<input type="radio"/> Yes छ <input type="radio"/> No छैन
3c	Do you own any other property? तपाईंको आफ्नो अरु कुनै घर जग्गा छ ?	<input type="radio"/> Yes छ <input type="radio"/> No छैन
3d	Do you live in a single unit home or an apartment building? तपाईंहरू छुट्टै घरमा बस्नुहुन्छ कि अपार्टमेन्टमा ?	<input type="radio"/> Single unit home <input type="radio"/> Apartment building
3e	Is there any space available close to your house you could set up a shelter? तपाईंको घर नजिकै अस्थायी बासस्थान बनाउने खास जग्गा छ ?	<input type="radio"/> Yes छ <input type="radio"/> No छैन
3f	(If yes) Do you own that land? छ भने, त्यो जग्गा तपाईंको हो ?	<input type="radio"/> Yes छ <input type="radio"/> No छैन
4a	What are your main sources of income? तपाईंहरूको आम्दानीको मुख्य स्रोत के हो ?	<input type="radio"/> Agriculture <input type="radio"/> Live-stock <input type="radio"/> Services / government <input type="radio"/> Business owner <input type="radio"/> Remittance <input type="radio"/> Other
4b	Was the average monthly total income of your household before the earthquake? भूकम्प जानुभन्दा अगाडि तपाईंहरूको मासिक आम्दानी कति थियो ?	<input type="radio"/> Below 5000 NRs <input type="radio"/> Below 20000 NR <input type="radio"/> More than 20000 NRs <input type="radio"/> Don't know <input type="radio"/> Don't answer
4c	Has your household's ability to generate income been impacted by the earthquake a lot, a little or not at all? भूकम्पले गर्दा तपाईंहरूको आम्दानीमा धेरै, थोरै वा नगन्य कस्तो प्रभाव परेको छ ?	<input type="radio"/> A lot <input type="radio"/> A little <input type="radio"/> Not at all
4d	Did you borrow money from the bank, friends or family because of this earthquake? भूकम्पले गर्दा बैंक, साथीभाई वा आफन्तबाट ऋण लिनु भएको छ ?	<input type="radio"/> Yes छ <input type="radio"/> No छैन
<b>IMPACT</b> I would now like to ask you a few questions about the impact of the earthquake on your household भूकम्पले गर्दा तपाईंको परिवार सबै		
5a	Were there any casualties in your household? भूकम्पमा परिवार सबै जना सकुशल नै हुनुहुन्छ कि कोही घाइते पनि हुनु भएको छ ?	<input type="radio"/> Killed मृत्यु <input type="radio"/> Injured घाइत <input type="radio"/> None छैन
6a	Was the damage to the home you lived in at the time of the earthquake Severe, Moderate or Minor? भूकम्पले गर्दा तपाईंको घरमा धेरै, ठीकै र थोरै कति क्षति भएको छ ?	<input type="radio"/> Total collapse <input type="radio"/> Severe <input type="radio"/> Moderate <input type="radio"/> Minor <input type="radio"/> Not at all
6b	Has that house been inspected? तपाईंको घरमा प्राविधिकले परीक्षण गरेर दयाग लगाएको छ ?	<input type="radio"/> Yes छ <input type="radio"/> No छैन
6c	(If yes) How has that house been tagged? छ भने कस्तो दयाग लगाइएको छ ?	<input type="radio"/> Red <input type="radio"/> Yellow <input type="radio"/> Green <input type="radio"/> Don't know

Interview Code \_\_\_\_\_

Shelter Site \_\_\_\_\_

District \_\_\_\_\_

Municipality/VDC \_\_\_\_\_

Ward \_\_\_\_\_

7a	(if not total collapse) Do you feel that house now is safe from ...? तपाईंको विचारमा तपाईंको घर ..... सुरक्षित छ ?	<b>Collapse in an aftershocks</b> <input type="radio"/> safe <input type="radio"/> unsafe <b>Flood damage/water logging</b> <input type="radio"/> safe <input type="radio"/> unsafe <b>Landslide damage</b> <input type="radio"/> safe <input type="radio"/> unsafe																																																																																										
7b	Is it easy to access safe drinking water at that house now? अहिले त्यहाँ/तपाईंको घरमा सानेपानीको व्यवस्था छ ?	<input type="radio"/> Yes छ <input type="radio"/> No छैन																																																																																										
7c	Is there any electricity at that house now? अहिले त्यहाँ/तपाईंको घरमा बत्ती छ ?	<input type="radio"/> Yes छ <input type="radio"/> No छैन																																																																																										
7d	Would you be able stay in that house during the monsoon? तपाईंको विचारमा वर्षाको समयमा घरमा सुरक्षित बस्न सक्नु हुन्छ ?	<input type="radio"/> Yes छ <input type="radio"/> No छैन																																																																																										
I would like to ask you a few questions about what your household has experienced since the earthquake																																																																																												
8a	(first time) Has your household experienced _____ since the earthquake? तपाईंको परिवारले भूकम्प पछाडि .....  (following) How about _____?	<input type="radio"/> <b>Crime</b> अपराधजन्य कुनै कृत्याकलाप (चोरी, डकैती...) <input type="radio"/> <b>Health or medical issues</b> स्वास्थ्य सम्बन्धी कुनै समस्या <input type="radio"/> <b>Emotional difficulties like anxiety or depression</b> मानसिक/मनोवैज्ञानिक समस्याहरू <input type="radio"/> <b>Unequal distribution of aid</b> राहत वितरणमा भेदभाव भोग्नु भयो ? कस्तो भेदभाव ? किन ? <input type="radio"/> <b>Discrimination</b> अन्य कुनै विभेद <input type="radio"/> <b>Social isolation</b> समाजिक .... <input type="radio"/> <b>Difficulties as a woman</b> महिला सम्बन्धी विशेष समस्याहरू <input type="radio"/> <b>Insufficient protection from weather</b> हावापानीबाट अप्रत्याप्त सुरक्षा																																																																																										
I would like to ask you some questions about your household's shelter situation																																																																																												
9a	(first) Where did you sleep the first night after the first earthquake? भूकम्प आएको पहिलो रात कहाँ सुत्नु भएको थियो ?	Keep going until you get to "this shelter" and today																																																																																										
9b	How long did you stay there? तपाईं त्यहाँ कति समय बस्नु भयो ?  (following) a. Where did you go next? तपाईं त्यहाँ बाट कहाँ जानु भयो ? b. How long did you stay there? तपाईं त्यहाँ कति समय बस्नु भयो ?	<table border="1"> <tr> <td>a.</td> <td>1. At home</td> <td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td> </tr> <tr> <td></td> <td>2. Directly beside the house</td> <td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td> </tr> <tr> <td></td> <td>3. On other land you own</td> <td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td> </tr> <tr> <td></td> <td>4. At a friends or family's home</td> <td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td> </tr> <tr> <td></td> <td>5. Unmanaged shelter site</td> <td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td> </tr> <tr> <td></td> <td>6. Designated official shelter</td> <td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td> </tr> <tr> <td></td> <td>7. This shelter</td> <td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td> </tr> <tr> <td>b.</td> <td>Number</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td></td> <td>Nights / Weeks (end with NOW)</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> </table>	a.	1. At home	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		2. Directly beside the house	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		3. On other land you own	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		4. At a friends or family's home	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		5. Unmanaged shelter site	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		6. Designated official shelter	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		7. This shelter	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	b.	Number										Nights / Weeks (end with NOW)								
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10a	Have any members of your household visited the house you lived in recently? हालसालै परिवारको कोही घरमा जानु भएको थियो ?	<input type="radio"/> Yes छ <input type="radio"/> No छैन																																																																																										
10b	(if yes) Why did you visit? (read answers, can choose multiple) घरमा के गर्न जानु भएको थियो ?	<input type="radio"/> <b>To sleep</b> सुत्न <input type="radio"/> <b>To check on the house</b> जाँच गर्न <input type="radio"/> <b>To make repairs</b> मर्मत सम्भार गर्न <input type="radio"/> <b>For work/business</b> काम/व्यापार गर्न <input type="radio"/> <b>To demolish</b> भत्काउन <input type="radio"/> <b>To use toilet/bathing facilities</b> शौचालय सेवा लिन																																																																																										





Shelter Site

Municipality/VDC \_\_\_\_\_

\_\_\_\_\_

14c	<p>How long would it take your household to return to permanent housing without financial assistance?</p> <p>तपाईंको परिवार आर्थिक सहयोग बिना पक्की घर/स्थायी बासस्थानमा फर्किन सक्छ/सक्छम छ ?</p>	<p> <input type="radio"/> As soon as the monsoon starts  <input type="radio"/> During the monsoon  <input type="radio"/> Immediately after the monsoon  <input type="radio"/> Before winter  <input type="radio"/> 1 to 2 years  <input type="radio"/> 2 to 5 years  <input type="radio"/> 5 to 10 years  <input type="radio"/> More than 10         </p>
<p><b>Remarks:</b></p>		