

INDONESIA

Central Sulawesi Earthquake, Tsunami, and Liquefaction: Population Needs

Multi-Sector Needs Assessment:
Executive Summary Report

February 2019



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Petobo Village following liquefaction event, Palu Selatan Sub-District, Palu City, Central Sulawesi. Photo Credit – Ari Weiss, October 2018.

About REACH

REACH is a joint initiative of two international non-governmental organizations - ACTED and IMPACT Initiatives - and the UN Operational Satellite Applications Programme (UNOSAT). REACH's mission is to strengthen evidence-based decision making by aid actors through efficient data collection, management and analysis before, during and after an emergency. By doing so, REACH contributes to ensuring that communities affected by emergencies receive the support they need. All REACH activities are conducted in support to and within the framework of inter-agency aid coordination mechanisms. For more information please visit our website: www.reach-initiative.org. You can contact us directly at: geneva@reach-initiative.org and follow us on Twitter @REACH_info.



SUMMARY

Following a magnitude 7.7 earthquake on 28 September 2018, large parts of Palu city, the capital of Central Sulawesi Province, along with the surrounding regencies of Sigi, Donggala, and Parigi Moutong on the Island of Sulawesi, were destroyed by liquefaction and a tsunami.¹ According to the most recent assessments, as of 20 December 2018, 2,227 people were killed, 164,626 people were displaced into informal settlements and in tents outside of their homes, and 20,257 were in need of temporary shelters out of a previous population of over 1.2 million individuals before the disaster.^{2,3}

Four months after the earthquake, very little information is available on the needs and displacement situation of the population in Central Sulawesi Province. In order to address the needs of the population, REACH, as a standby partner to the United Nations International Children's Emergency Fund (UNICEF) supported the Humanitarian Forum Indonesia (HFI) and Universitas Muhammadiyah Palu (UNISMUH) to conduct a household-level multi-sector needs assessment on behalf of the Ministry of Social Affairs (Kemensos) and the Government of Central Sulawesi Province, with financial support from ECHO.

The assessment was conducted through a statistically representative household survey, administered in 38 of 62 sub-districts located in the regencies of Donggala, Palu and Sigi in Central Sulawesi Province that were affected by the earthquake. In collaboration with humanitarian partners of the Displacement and Protection (PP) Cluster, a joint set of indicators and questionnaire was agreed upon and administered by trained enumerators to a random sample of households in each sub-district. Target households, from six separate population groups⁴, were identified using randomly distributed GPS points based on OpenStreetMap shelter footprints. Data collection, using Kobo forms, lasted between 22 January and 6 February 2019 using a gender-balanced team of 71 enumerators and 9 team leaders. In total, 4,264 households were interviewed. Findings are statistically representative with a minimum confidence level of 95% and a 10% margin of error at the sub-district level and at crisis level for each separate population group. The assessment did not cover extremely remote or inaccessible areas, and did not cover households who were living in government transitional shelters (huntara collectifs) as the population moved in to these shelters after the assessment team had completed data collection in those areas.

The following were key findings from the assessment:

- 26% of households are displaced outside of their own homes or apartments; however, only 9% of households are staying in the informal settlements targeted by previous assessment and interventions. Many displaced household (10%) are hosted either directly or in empty houses the non-displaced community has provided for them. Another 5% are living in tents outside of their homes.
- Needs tended to vary based on displacement status, rather than geography. Most households in Palu, Sigi, and Donggala were found to have similar needs, in terms of food security, water, sanitation and hygiene (WASH). In Parigi Moutong, which was much less affected by the disaster, needs were often different and more related to health and education.
- Education access has largely returned to the same levels as before the disaster; however many children in Parigi Moutong were reported to have not been attending school before the disaster, suggesting underlying issues beyond school repair.

¹ Liquefaction occurs when the strength and stiffness of water-saturated soil is reduced by earthquake shaking or other tremors, causing it to lose its integrity and the soil loses its ability to support buildings and other structures. University of Washington, Department of Civil Engineering, "What is soil liquefaction?" 27 January 2000.

² UNOCHA, Humanitarian Snapshot of Central Sulawesi, 20 December 2018.

³ According to the Agency for Disaster Management (BNPB), as of 10 December 2018, 2,101 individuals have died, 1,373 are missing 133,631 were displaced, and 20,000 children had child protection issues (Humanitarian Country Team, Central Sulawesi Earthquake & Tsunami: Situation Report #10, 10 December 2018).

⁴ Internally Displaced Persons (IDPs) in settlements and camp-like settings; households displaced next to their homes living alone; IDPs living in apartments; IDPs living with host community in shelters; host communities living inside of their original homes; host communities living in apartments.

- Health issues are likely to be compounded by unresolved issues around nutrition and sanitation; the poor nutrition and sanitation environment, along with the high instance of diarrhoea among IDP households may lead to additional need for health services.
- Displaced households, particularly those living in informal settlements and those living in tents or makeshift shelters next to their former homes, were found to be the most vulnerable groups and remain the most affected by the disaster. They have suffered more economic loss, and will require more support rebuilding their businesses and resuming their livelihoods in a displaced setting.
- Although a plurality of displaced households were living in other households' homes or were directly supported by the host community, they also experienced difficulties in accessing some services, particularly shelter support, and often had more difficulties receiving aid due to being more difficult to identify among the local population.
- Access to services in Palu was largely dependent upon displacement status; non-displaced households tended to access basic services more easily and sufficiently than IDP households. In Donggala and Sigi, service access was more dependent upon how far the sub-district was from Palu Town. Most households in Parigi Moutong were not affected and many of the household's complaints were focused more on longer-term issues, such as a lack of access to healthcare or insufficient water.
- Although inadequate sanitation issues noted during the early response have largely been resolved, displaced households reported worrying levels of open defecation, and while there are sufficient communal latrines in informal settlements, many lack many basic protection features.
- A majority of households likely want to repair or rebuild their former homes; however, without support they will be unable to do so, and a majority of households expressed a desire to stay in their current locations for the following 6 months, even though many of them are living in difficult displacement situations. Many of the displaced households that are living in informal settlements or temporary shelters outside of their former homes do not have a place in the government transitional shelters and a majority reportedly feel stuck where they are without support to rebuild their homes.
- Food was the most needed type of aid reported by households, regardless of regency or displacement status. Although most food security indicators were acceptable and the most commonly received type of aid was food, a lack of dietary diversity in food aid is likely contributing to potential nutritional deficiencies in children and other household members that consume it.
- Households living in liquefaction and tsunami-affected areas are unable to return and rebuild on their lands. Many have been relocated to government-built transitional shelters; however, many others are still unable to return home and may need additional support in relocating to safer areas. In addition, much of the Central Sulawesi area that was not affected by liquefaction is liquefaction prone, and populations living there are vulnerable to future disasters.⁵

⁵ The Conversation, "2012 research had identified Indonesian city Palu as high risk of liquefaction," 2018.

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List of Acronyms

DTM	Displacement Tracking Matrix
HFI	Humanitarian Forum Indonesia
IDP	Internally Displaced Person
IFRC	International Federation of Red Cross and Red Crescent Societies
IOM	International Organization for Migration
KII	Key Informant Interview
MOSA	Ministry of Social Affairs (Kemensos)
ODK	Open Data Kit
UNICEF	United Nations Emergency Children’s Fund
UNISMUH	Universitas Muhammadiyah Palu
WASH	Water, Sanitation, And Hygiene

Geographical Classifications

Province	Administrative level below country
Regency/City	Administrative level below province; urban regencies are considered as cities
Sub-district	Administrative level below regency/city; assessment’s smallest unit of analysis
Village	Administrative level below sub-district; smallest formal administrative level

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INTRODUCTION

Following a magnitude 7.7 earthquake on 28 September 2018, large parts of Palu, the capital of Central Sulawesi Province, along with the surrounding regencies of Sigi, Donggala, and Parigi Moutong on the Island of Sulawesi were destroyed by liquefaction and a tsunami.⁶ Buildings, including houses, shops, mosques and hotels, collapsed, were swept away, or suffered extensive damage. Whole villages were submerged when the land they were built upon liquefied. According to the most recent assessments, as of 20 December 2018, 2,227 people were killed, 164,626 people were displaced into informal settlements and in tents outside of their homes, and 20,257 were in need of temporary shelters out of a previous population of over 1.2 million individuals before the disaster.⁷ An unknown number are still living in their damaged homes or have left Central Sulawesi entirely, and are living in cities and villages across Sulawesi and other Islands in Indonesia.

Four months after the earthquake, very little information is available on the needs and displacement situation of the population in Central Sulawesi Province. A system for collecting 5W information (who, what, where, when, how many) on implementing organizations has been implemented, and several rapid assessments have been conducted in the first weeks, including a Joint Needs Assessment (JNA), which was conducted at the village level in the first two weeks of the response, and International Organization for Migration's Displacement Tracking Matrix (DTM)'s Rapid Site Assessment, which was conducted in October and December 2018, and generated timely evidence to plan the initial phase of the response.⁸

However, rapid assessments have focused on settlements and camp-like settings only. Until now there is no data available concerning populations living outside settlements and camp-like settings. The 5W system, while successful, has only provided information on where humanitarian actors are working and the activities being carried out, other than the needs of the populations themselves. Information gaps concern in particular those displaced adjacent to their original damaged/destroyed house, displaced being hosted by other households or living in empty houses, those renting, and the community that is not displaced and still living in their own homes.

These information gaps risk driving humanitarian actors to focus on settlements only and there is a risk that inequitable service delivery will attract people to settlements and camp-like settings. In addition, rapid assessment data is very cursory, and do not provide detailed, household-level information on needs and vulnerabilities of the affected population. There is therefore the need of an in-depth multi-sector household level survey to structure the response in the mid-term and transition to early recovery.

In order to fill these gaps, REACH, as a standby partner to the United Nations International Children's Emergency Fund (UNICEF) supported Humanitarian Forum Indonesia (HFI) and Universitas Muhammadiyah (UNISMUH) to conduct a household-level multi-sector needs assessment on behalf of the Ministry of Social Affairs (Kemensos) and the Government of Central Sulawesi Province. The overall objective was to provide information on the needs of the population to help guide the response as it enters the early recovery phase. The assessment covered 4,264 randomly selected households in four regencies of Central Sulawesi Province that were interviewed between January 22 and February 6 2019. The information covered household needs across a majority of the sectors in the Indonesian cluster system, and was designed to help provide as much relevant information as possible to all of the clusters and their partners.

The next section provides an overview of the methodology used in the report, including how the assessment was designed, respondents were selected and how the tool was developed. This is followed by the findings, which are covered in detail, structured according to the Indonesian cluster system. The report concludes with the key messages and conclusions from the data, in addition to broader recommendations on how to best respond to the key findings of the assessment.

⁶ Liquefaction occurs when the strength and stiffness of water-saturated soil is reduced by earthquake shaking or other tremors, causing it to lose its integrity and the soil loses its ability to support buildings and other structures. University of Washington, Department of Civil Engineering, "What is soil liquefaction?" 27 January 2000.

⁷ UNOCHA, Humanitarian Snapshot of Central Sulawesi, 20 December 2018.

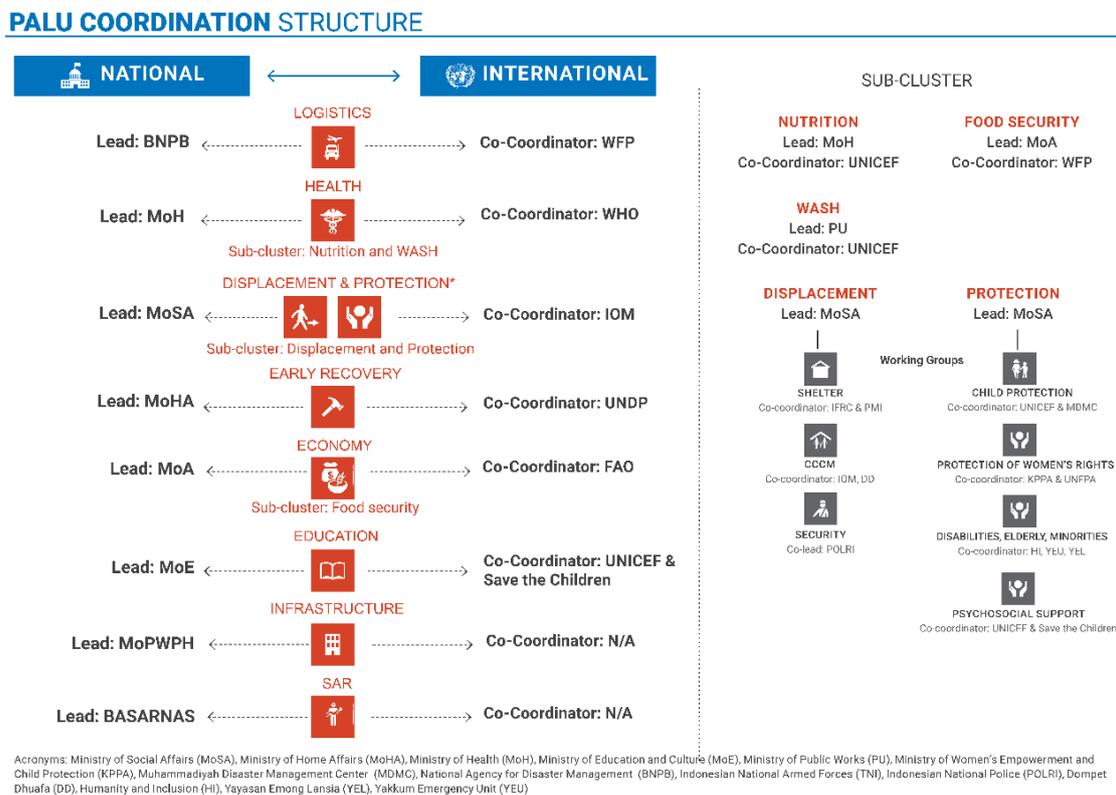
⁸ Humanitarian Forum Indonesia, Joint Needs Assessment (JNA) Sulawesi Tengah Earthquake and Tsunami 28 September 2018, 9 October 2018.; IOM, Displacement Tracking Matrix: Central Sulawesi Round 1, 20 October 2018; IOM, Displacement Tracking Matrix: Central Sulawesi Round 2, 4 December 2019.

METHODOLOGY

The assessment was conducted using a statistically representative household survey, which was administered in 38 of 62 sub-districts located in the four regencies and city of Donggala, Sigi, Parigi Moutong, and Palu that were affected by the earthquake, tsunami, or liquefaction events. Sub-districts were selected based on their ability to be safely accessed by enumerators from Palu Town; areas that were prone to landslides, were out of communication, or were too far to be checked on by the assessment team in Palu were excluded.

In collaboration with the humanitarian partners of the Displacement and Protection Cluster (KlanNas PP), Health Cluster, Economy Cluster, and Education Cluster, a joint set of indicators and questionnaire was developed. The final tool was validated by the respective Information Management focal points in the Information Management Working Group in January 2019. A tool was programmed using the Kobo online tool suite and downloaded onto the phones of 71 enumerators, who were students from UNISMUH. They were broken into teams of 8-9, each with a team leader, who were lecturers and staff from the Economics and Public Health departments of UNISMUH. Approximately half of the enumerators and lecturers were women.

Figure 1: Palu Coordination Structure of Indonesia

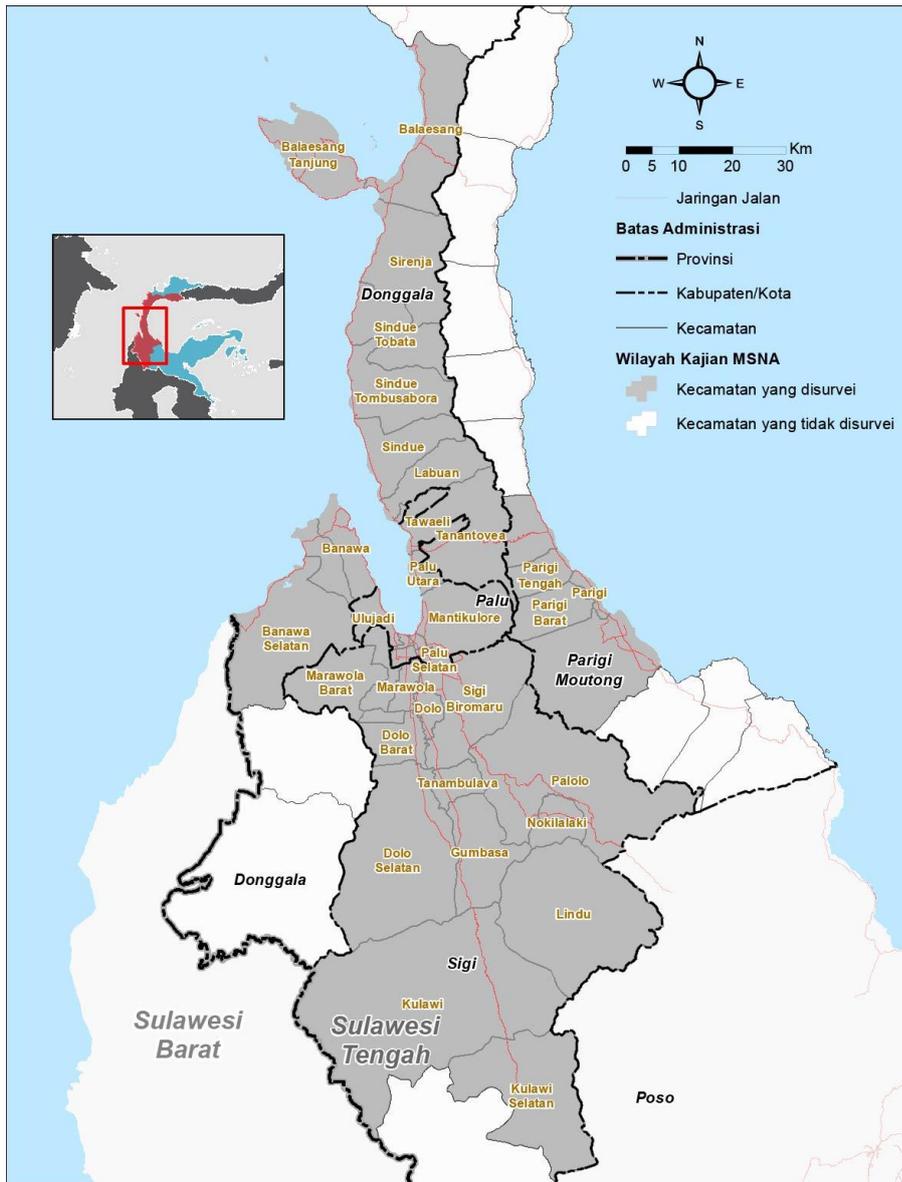


Households were the unit of measurement for the survey, defined as “a group living together generally eating with one pot (sharing food).”

Households were randomly selected using the following process: data of shelters from the 38 assessed sub-districts was downloaded from open street map, and combined with location and population data of informal settlements from the most recent DTM survey by IOM in December 2018.⁹ The number of household interviews needed for

⁹ IOM, Displacement Tracking Matrix: Central Sulawesi Round 1, 20 October 2018.

Map 1: Assessed sub-districts in Central Sulawesi Province, 22 January - 6 February 2019



each sub-district was based on 2010 population data from the Indonesian bureau of statistics (BPS) extrapolated to 2017 for the Ministry of Home Affairs (Kementerian Dalam Negeri), which contained household and individual data up to the desa (ADM4) level. Missing desas in the data were interpolated with data from the 2010 population census data form BPS. Both sources were available from the humanitarian data exchange (HDX).¹⁰ The sample sizes for each sub-district are found in Annex 1.

Shelter points were randomly selected based on the total number needed for a 95% confidence interval and 10% margin of error for each sub-district, with a 10% “buffer sample” of additional shelters on top of the total number of points in the event that a shelter was empty or could not be reached, and to account for surveys they might be deleted during the

data cleaning process.¹¹ Shelter points were also selected from the IOM DTM data denoting camp sites, with the number of interviews to be conducted at each location based on the size of the household population at the site and the proportion of the population in the sub-district that was estimated to be living in the site.

The randomly selected points were downloaded onto the “OSMand” application on each enumerator’s phone, and they navigated to the points that appeared and interviewed the households there. If the shelter was empty, inaccessible, or the households refused to be interviewed, enumerators were instructed to go to the nearest shelter and interview that household instead. If no other households were available nearby, they went to the next available point. Before starting the interview, the enumerator explained the purpose of the survey, the process of the interview and requested a formal consent to participate on a volunteer basis. If the consent was not granted, the household was not interviewed.

Prior to interviewing a household, the REACH team asked how many households were living in the shelter. If the enumerators were assessing a shelter with two or more households inside, the household to be interviewed was

¹⁰ <https://www.humanitarianresponse.info>

¹¹ The list of the total number of household interviews needed for each sub-district is available in Annex 1.

randomly selected. Using the Kish sampling method, each household was given a randomly selected number.¹² A random number was generated with the Kobo survey, and the enumerator interviewed the household with the corresponding number. The head of household, or someone familiar enough with household affairs to provide the same information, was interviewed.

The following six population groups were taken into consideration for the purpose of this assessment:

1. Internally Displaced Person (IDP) households in settlements and camp-like settings.
 - a. Identified by DTM as informal settlements with a minimum of 16 people living in them in a concentrated area.
2. Households displaced next to their homes living alone.
 - a. Identified as single households living alone, usually next to or nearby their original shelter.
3. IDP households living in apartments
 - a. Identified as IDP households renting an apartment because they have been displaced from their former homes.
4. IDP households living with host community in shelters.
 - a. Identified as IDP households living with host communities in the host community household's shelter or staying in a shelter that belongs to another household.
5. Host community households living inside of their original homes.
 - a. Identified as non-displaced households living in their original homes.
6. Host community households living in rented apartments
 - a. Identified as households that were renting the same locations that they were renting before the disaster

Due to the large overall population size, a total of 96 interviews was needed for the data to be representative of the population with a 95% confidence interval and a 10% margin of error at the crisis level for each displacement group. No additional adjustments to the sample based on the household's displacement status was made, as it was assumed that during the sampling enough interviews would be done naturally for each population group to meet the needed threshold. However, if it was not met, then the confidence level and margin of error would be adjusted to reflect the results. The necessary numbers of interviews were conducted for all sub-districts, but not for all population groups; as a result, the confidence levels and margins of error were adjusted accordingly. Table 1 below shows the resulting sample sizes, confidence levels, and margins of error for each group. Similar information per sub-district is available in Annex 1.

Table 1: Assessment Metadata

Disaggregation	Confidence level	Margin of Error (+/-)	Sample size	Respondent age (average)	% of Female Respondents
Total	99%	2%	4,264	44	49%
Donggala	95%	5%	1,213	44	58%
Palu	95%	5%	892	44	48%
Parigi Moutong	95%	5%	572	43	35%
Sigi	95%	5%	1,587	43	45%
Own house	95%	2%	3,195	45	48%
Other house	95%	7%	375	41	49%
Shelter next to house	95%	7%	233	46	46%
Informal settlements	95%	6%	331	42	58%
Renting (non-displaced)	95%	13%	74	39	61%
Renting (displaced)	95%	13%	53	40	44%

¹² Kish Grid, The SAGE Encyclopedia of Social Science Research Methods, Lewis-Beck, Bryman, and Liao, 2004.

All tools were translated into Bahasa Indonesia before being used in the field. Training was conducted with the nine team leaders on 19 January, and training with the enumerators was conducted between 20-21 January. Data collection was conducted between 22 January and 6 February 2019. Throughout data collection, each team leader monitored their team both personally on the ground and using WhatsApp groups that all enumerators belonged to. The team leaders liaised directly with the assessment team in Palu, who conducted daily field visits to each of the teams to ensure that the survey was being administered properly.

Data was cleaned by the assessment team between 8-17 February, with support from field teams. The cleaned data was then weighted by population using the sample size household-level population groups, and disaggregated by gender, sub-district, displacement status, and regency.

The assessment had several key limitations that should be kept in mind when reading the results. Households that did not want to participate were not interviewed. In addition, sub-districts and villages that the assessment team identified as being too dangerous, difficult to access, or too far away were not interviewed by the assessment team. As a result, the assessment findings are not generalizable to those areas. In addition, although all questions came from the Indonesian cluster system, some were later identified as being inappropriate or not phrased correctly for the Central Sulawesi Province context; these questions have either been removed or are noted in the findings and presented in a way that make clear the questions' limitations. As noted above, the number of interviews conducted with some population groups (specifically renting households, both displaced and non-displaced) did not meet the threshold for a 95% confidence level and a 10% margin of error, and results should be interpreted with more cautious as they have a lower confidence level and a wider margin of error.

Additionally, no households staying in the government transitional shelters, or Huntara Collectifs (which are being constructed by the government to house those who have lost their homes and were living in areas that they cannot rebuild in) were interviewed. The huntara collectifs in Palu city were completed and many households relocated to them in during the data collection, though this occurred after the assessment team had already fully assessed these sub-districts.

FINDINGS

Findings in this section are organized by Cluster under the Indonesian Palu Coordination System. Findings did not deviate consistently enough to organize the analysis around individual Kabupaten or displacement group results. The information is presented generally, followed by variations by geographic or displacement status. When possible, graphs and maps are included to illustrate the variations.

Respondent Metadata and Population

Population

Displaced households were found to have slightly higher dependency ratios, suggesting that many families may be split and productive members of the household may have left the area to find work in other parts of the country.¹³

Table 2: Household information

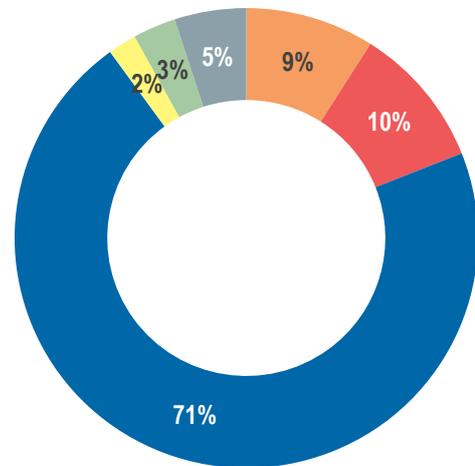
Disaggregation	Age of head of household (average)	Female-headed households (%)	Dependency ratio
Total	46	11%	0.7
Donggala	47	14%	0.8
Palu	46	14%	0.7
Parigi Moutong	44	5%	0.7
Sigi	46	7%	0.7
Own house	47	12%	0.7
Other house	43	14%	0.7
Shelter next to house	47	6%	0.8
Informal settlements	44	10%	0.9
Renting (non-displaced)	41	8%	0.8
Renting (displaced)	41	15%	0.8

¹³ Age dependency ratio is the ratio of non-working age members of the household (typically those aged 0-15 and 65+) divided by working age adults (16 – 64). It gives an indication of how dependent the household is on productive members to provide for those who are not. Numbers higher than 1 indicate a more dependent population, while those below 1 are less dependent. Due to the data from the age categories collected by the assessment, the age dependency ratio was calculated by using age 0-17 and 60+ as dependent households members and age 18-59 as the productive members of the household.

Displacement and Protection

Four months after the disaster, the majority of households were not displaced: 74% of households were either living in a house that they owned or had been renting an apartment both before and after the disaster. A further 10% of the households were either being hosted by another household or living in an empty house that belonged to another household. According to field teams, this was usually a house belonging to family or friends. These households were generally found to be in a more stable situation and expressed less desire to move or change their current living situation in the near term. The remaining 26% of households were living in a variety of displacement situations; 9% were staying in informal camp-like settlements, 5% in temporary shelters next to their original homes, and 2% were renting apartments after being displaced from their shelters.

Graph 1: % of Households by Current Displacement Status/Living Location



- Informal Settlement
- Other
- Other house that is not their own
- House they own
- Renting (displaced)
- Renting (not displaced)
- Temporary shelter next to original home

The vast majority of renting households were located in Palu, where 11% of the households were renting shelters. Renters in other regencies were mostly located in peri-urban areas of Donggala (Banawa, Sindue) Sigi (Dolo, Marawola) and Parigi (Parigi) Kabupatans, but represented a negligible portion of the population there.

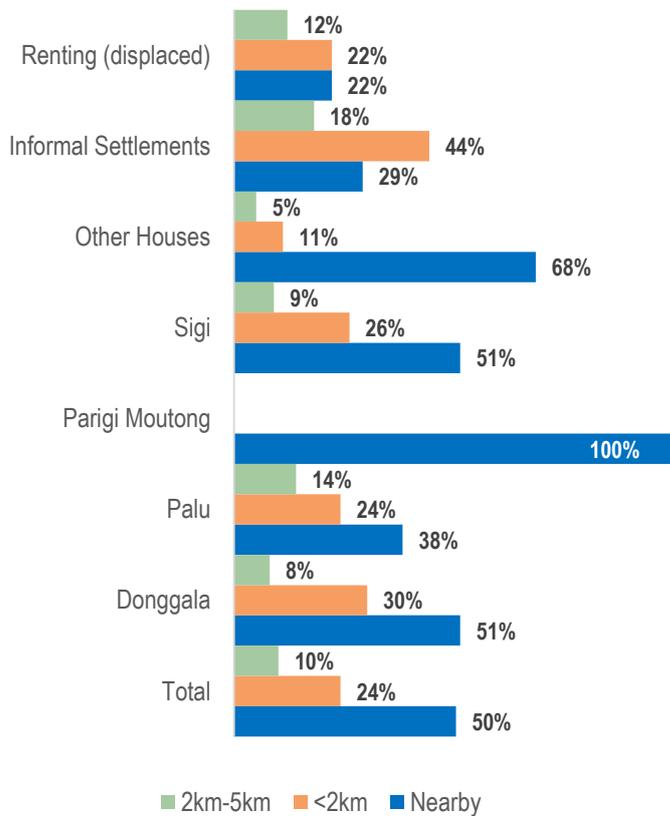
The proportion of displaced households varied by location: over one third (34%) of households in Donggala were not living in their pre-disaster accommodation, while about a quarter in Sigi (28%) and Palu (26%) reported the same. In Parigi Moutong, which was much less affected by the disaster, only 6% of households were displaced. Displaced populations tended to be concentrated in particular areas, usually areas far from Palu or in places affected by liquefaction, including Dolo Selatan, Sindue, Sirenja, Balaesang, Sigi Biromaru sub-districts. About 10% of households in Sigi, Donggala, and Palu were displaced in informal settlements, which is about the same proportion documented by a government report in December.¹⁴ This suggests that the displacement situation has been largely stable since late 2018, and conditions are unlikely to change dramatically in the near future.

Displaced Households

Most households that had been displaced from their original land have stayed close to their original accommodation, usually in a nearby safer location; 50% of households that were no longer living on their original property were living next or extremely close to their original homes. Another 24% were less than 2kms away for their original homes, and 10% were between 2km and 5km. The remaining were either living farther than 5km or were unsure of the distance.

¹⁴ UNOCHA, Humanitarian Snapshot of Central Sulawesi, 20 December 2018.

Graph 2: Distance of Displaced Households from their Original Homes



Examining this by displacement status, several patterns can be observed: those in informal settlements have moved much further away than other households, while households that were living in a friend or relative’s house were much closer. This was confirmed by observations from field teams, which noted that many displaced households have moved in with friends or relatives nearby. Renters had moved the farthest, which is consistent with observations that apartment availability was limited, so households often had to travel far to find vacancies. Most of those in informal settlements moved with their communities. Tsunami victims typically moved inland from their former homes to elevated areas, while those affected by liquefaction or earthquakes usually displaced to unaffected areas nearby.

Although the assessment did not ask specifically what type of disaster caused their displacement, it is easy to surmise the type of damage that was caused by looking at the Kabupaten/Kota or sub-district of origin. Displaced households in Palu Kota, which was the most affected by tsunami and liquefaction, reported having moved much further away than those in Sigi and

Donggala, where most of the population was affected by earthquake. In Parigi Moutong, the least affected sub-district, all displaced households reported living nearby their former homes.

Non-displaced Households

Only 6% of non-displaced households living in their own home or apartment reported hosting displaced households. However they hosted up to 18% of the displaced population, though the exact proportion is unclear as many displaced households may have split their household between multiple hosting households, and many of those living in other houses may be living alone and unsupported by the host community.¹⁵ The average size of households being hosted was 3, a little over half of the average size of hosting households (5).

Households in Palu (8%) were more likely to be hosting households than in Donggala (6%) or Sigi (5%), and both were more likely than those in Parigi Moutong. Interestingly, the average hosted IDP household size was much higher in Parigi Moutong; this suggests that only a few households are bearing most of the burden in supporting most of the IDP population there.

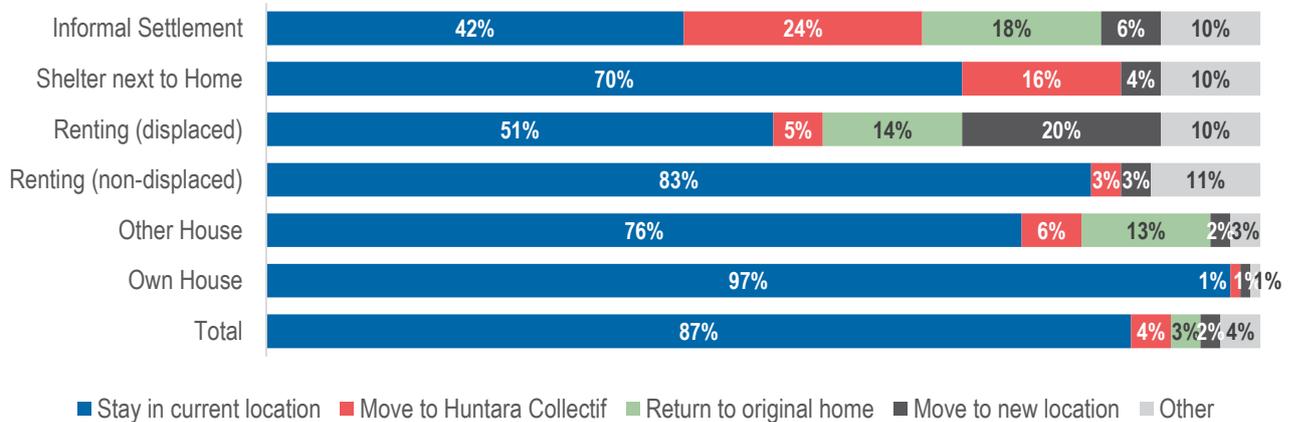
Those living in shelters next to their homes were more likely to be hosting IDP households than those in their own homes, meaning that the effects of the disaster have been unevenly distributed, and those more affected in one sector are more likely to experience difficulties in other sectors as well.

¹⁵ This number was calculated as follow: 6% of non-displaced households hosting displaced households is equivalent to 4.5% of the total population, which is about 18% of the displaced population (assuming that all members of each displaced household being hosted are not a single household split between different hosting households).

Desired Movement

The vast majority of households (87%), regardless of displacement status, reported wanting to remain in their current location in the six months following data collection. Although this was highest for those staying in their own homes (94%), it was also reported by a majority of those displaced (58%). There may be numerous reasons for this, but it is most likely linked to a lack of alternative accommodation.

Graph 3: Desired Movement in the 6 Months following Data Collection, by Displacement Status



The population group that reported the least desire to stay in their current location were those living in informal settlements. Although a plurality still intended to stay in their current location, almost a quarter reported intending to move to the government Huntara Collectifs, and less than a fifth wanted to return to their homes. While most of those living in tents outside of their homes (70%) reported intending to stay where they were, 16% intended to move to a government Huntara, and a tenth did not know. Surprisingly few displaced households expressed a desire to return to their homes, which may be the result of a combination of factors, including psychosocial stress and a lack of resources to rebuild their homes.

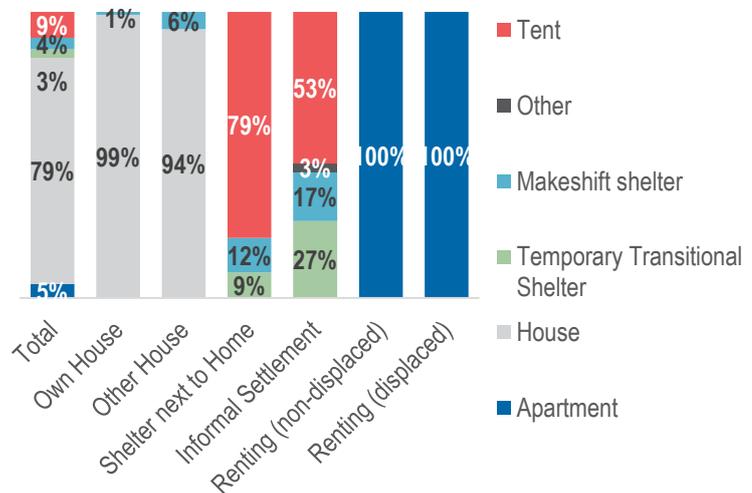
Surprisingly few displaced households wanted to return to their original homes; this is likely due to their former households being destroyed and having few other options in terms of places to move; 58% reported their previous shelter as destroyed or severely damaged, 35% reported that it was heavily damaged, and 19% that it was mildly damaged. Due to a limited number of spaces in the government huntaras, it is likely that those unable to move into the transitional shelters want to stay where they are due to a lack of better options.

Shelter

Shelter Types

Current shelter types were largely a reflection of current living conditions. The vast majority of households living in their own homes or another household's home reported living in houses (99% and 94%, respectively), renters reported living in apartments (100% for both displaced and non-displaced), while a majority of households living displaced next to their pre-disaster homes or in informal settlements were staying in tents.

Graph 4: Current Shelter Type, by Displacement Status



The results suggest that, absent a larger government relocation plan or reconstruction of destroyed shelters, many displaced households have started building

their own longer-term structures. Four months after the disaster, only 53% of households living in informal settlements were still living in tents; 27% were staying in temporary transitional shelters they had either constructed themselves or that NGOs had built for them, and 17% were living in makeshift shelters made from scavenged materials. Field teams in South Donggala and South Sigi regencies observed that many IDPs had built their own temporary shelters to improve on their situation. More concerning were households that were living in shelters next to their homes: nearly 80% of these households were still living in tents, while less than 10% were living in more robust individual transitional shelters.

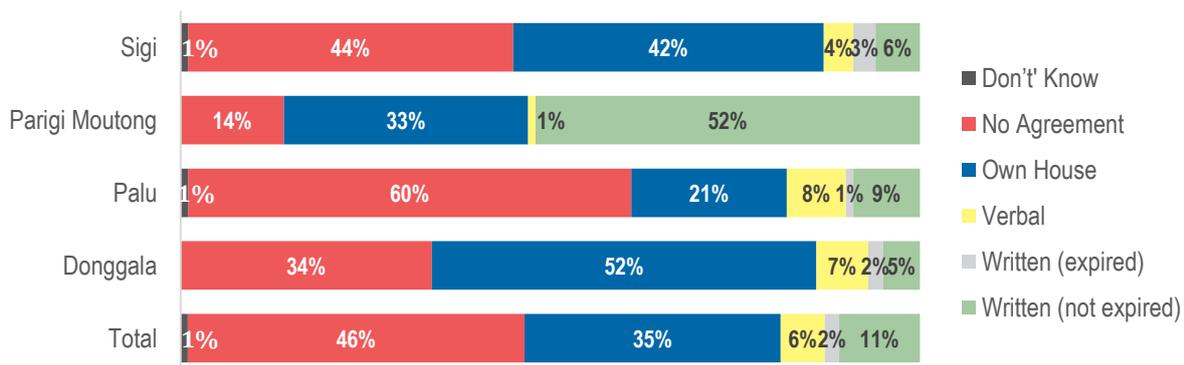
Eviction

About 2% of all households reported being at risk of eviction from their current location. Other than renters, of whom 70% were reportedly facing eviction due to a lack of money, the percentage of households reporting this was relatively low. About half of the households facing eviction reported that either authorities asking them to move (56%) or the owner of the land asking them to move (52%) were the dominant reasons they were at risk of eviction. Worryingly, 11% of households were facing eviction due to concerns over their safety from hosting communities that did not accept their presence, suggesting that there may be concerns of inter-communal tensions as displacement becomes protracted.

Tenancy and Ownership

Tenancy arrangements for housing are complicated in Indonesia, and the survey questionnaire did not adequately capture the complexity of housing arrangements that exist in Central Sulawesi province. Many ethnic groups in Central Sulawesi Province do not own land and instead live without formal agreement on the land of other family

Graph 5: Home ownership agreement, by Regency/City

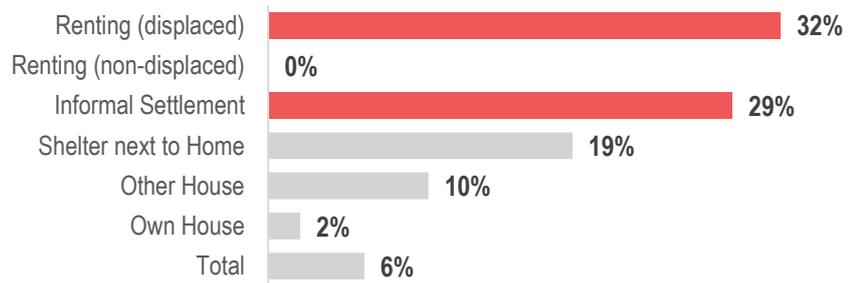


members, who often own what amounts to large estates shared by entire villages or extended families.¹⁶ Only about a third of households reported owning their original home. Most people living in their own homes (78%), living in tents outside of their homes (46%), or in settlements (63%) did not have any kind of agreement for the house on their land. The rates of no tenancy agreements were highest in Palu, where ties to land are the weakest and much of the population has moved from abroad. Home ownership was highest in Donggala and Sigi (reported by 52% and 42% of households, respectively).

¹⁶ Mulyoutami, Martini, Khususiyah, Isnurdiansyah and Suyanto, Gender, livelihood and land in South and Southeast Sulawesi, Working Paper no. 158, 2012.

Most households (94%) reported having some kind of documentation or agreement in place to prove the right to live in their original home, or knew the people who owned it who would be able to help them prove that they could live there. However, about 6% of the households reported having lost their documents due to the disaster; this disproportionately affected displaced households (29%). Due to the informal nature of home-ownership in much of Indonesia, displaced households may face issues in re-settlement and may need support in re-establishing themselves on their land.

Graph 6: % of Households Reporting having lost Ownership Documents, by Displacement Status



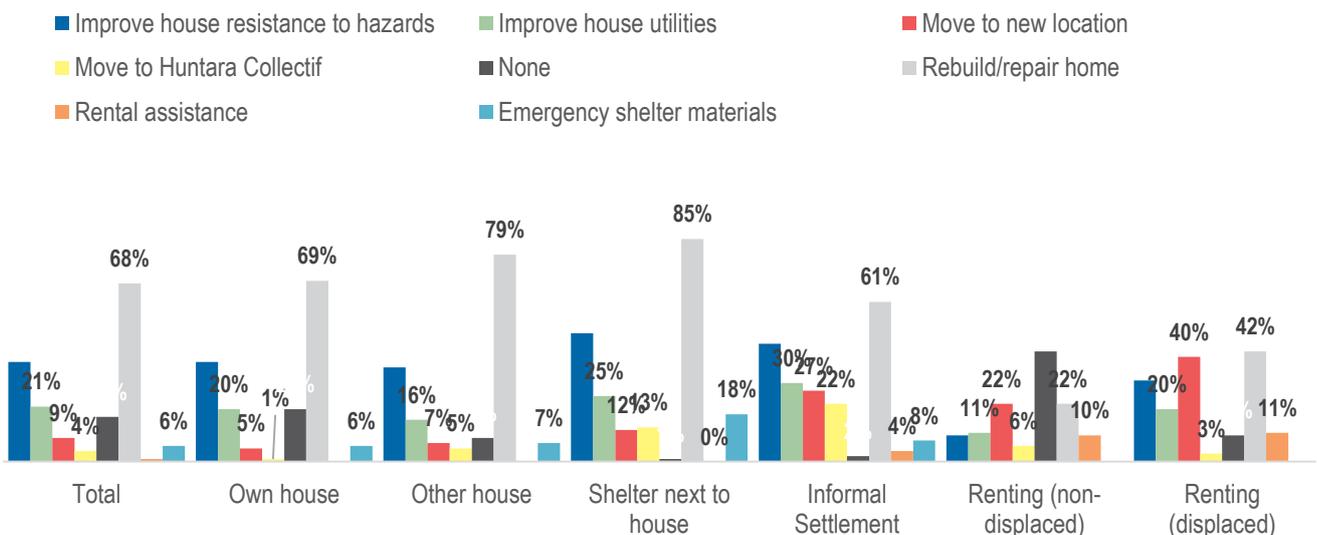
All of this suggests that ownership is likely to be a larger issue in Palu where much of the population does not have any ties to the land and is unlikely to have the formal or informal networks to ensure solid ownership of land. Attention should be given to the population in these areas and those who may have difficulty identifying their former homes or new places to stay.

Shelter Support and Reconstruction

Most households wanted to rebuild or repair their houses and restore their previous living circumstances. Over two-thirds of households (67%) reported that their original home had been damaged or destroyed by the disaster. This includes houses that were completely destroyed as well as those that were damaged, both mildly and heavily. When asked about the top three types of support that they would like to receive for their original shelters, over two-thirds of households (68%) reported that they wanted to rebuild or repair their homes in the following 6 months, while 38% wanted to improve the house to be resistant to hazards, and 25% wanted to improve utilities for the house, like running water and electricity. A lower proportion of households living in informal settlements expressed a desire to rebuild or repair their houses, though largely because they had other options, including moving into the government huntara collectives.

Renters expressed the most desire to move to completely new locations (40% of displaced and 22% of non-

Graph 7: Most Desired Assistance for Improving Housing Situation



displaced), which is unsurprising given that renters would be more likely to move to a new apartment if their first apartment is damaged. This is supported by geography: the desire to rebuild homes was highest in Sigi and

Donggala (reported by 74% and 80% of households, respectively) where renting is much less common, and lower in Paly and in Parigi Moutong (65% and 31%).

Protection

A small number of protection issues were covered in order to provide broad information to help guide the protection response. However, due to the sensitive nature of protection issues, it is recommended that protection organizations conduct their own detailed sector specific assessments on these issues.

Protection of Women’s Rights

Pregnant or lactating women were reported in 16% of households. This was slightly higher for displaced families, which is supported by other research that finds displaced families often have higher fertility rates due to stressful situations.¹⁷

Child Protection

About 3% of households reported that they had at least one child in the household that was separated from their normal caregivers. This was similar across most sub-districts, although it was significantly higher (8%) in Mantikulore. This may be due to Mantikulore being the most populated sub-district assessed, and is located in an urbanized area, and more likely have families who are available to support separated children who cannot find their families.¹⁸

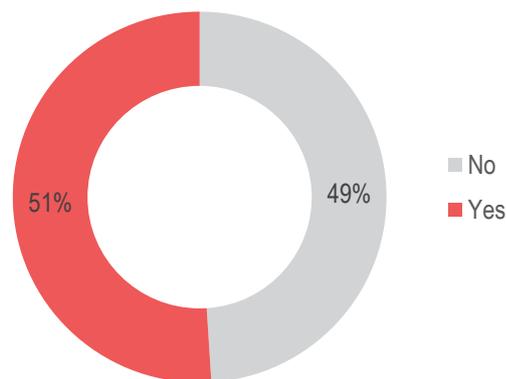
Psychosocial Support

Due to the technical nature of diagnosing post-traumatic stress and other trauma, the assessment team asked a proxy question: if anyone in the household was still experiencing stress, including loss of sleep, nightmares, emotional difficulties, or mood swings as a direct result of the disaster. Over half of households (51%) reported having at least one member still experiencing distress; this was even higher for those in displaced settings. This is much higher than what was reported in an Indonesian Red Cross (PMI) report from December 2018 according to which 9% of respondents were experiencing stress-like symptoms, though the discrepancy is likely due to differences in methodologies used.¹⁹ Latent distress over the loss of their homes and livelihoods may explain part of why households were less willing to return to their homes than expected.

Disabilities, Elderly, Minorities

About 3% of all households reported having members who were mentally or physically disabled. Generally, this was consistent across geographic areas and demographic groups, although a surprisingly high proportion (11%) reported having disabled members in their households in Labuan Sub-district. Any reconstruction efforts

Graph 8: Households with a family member experiencing emotional distress (nightmares, lack of sleep, stress, nervousness, etc.) following the disaster



¹⁷ Parlow, Birth and Fertility during War: Afghanistan from 2007 to 2010.

¹⁸ UNICEF, Displaced families face after math of Indonesia earthquake and tsunami, 17 October 2018

¹⁹ UNOCHA, Saura Komunitas 2, December 2018. PMI received feedback from 225 people through various modes of communication, including: PMI’s hotline, Interactive radio talk shows, broadcast on Radio, Nebula and RRI the national channel, PMI volunteers working face to face with people in all disaster affected areas in Central Sulawesi and mobile phone using KOBO Collect, a digital survey tool.

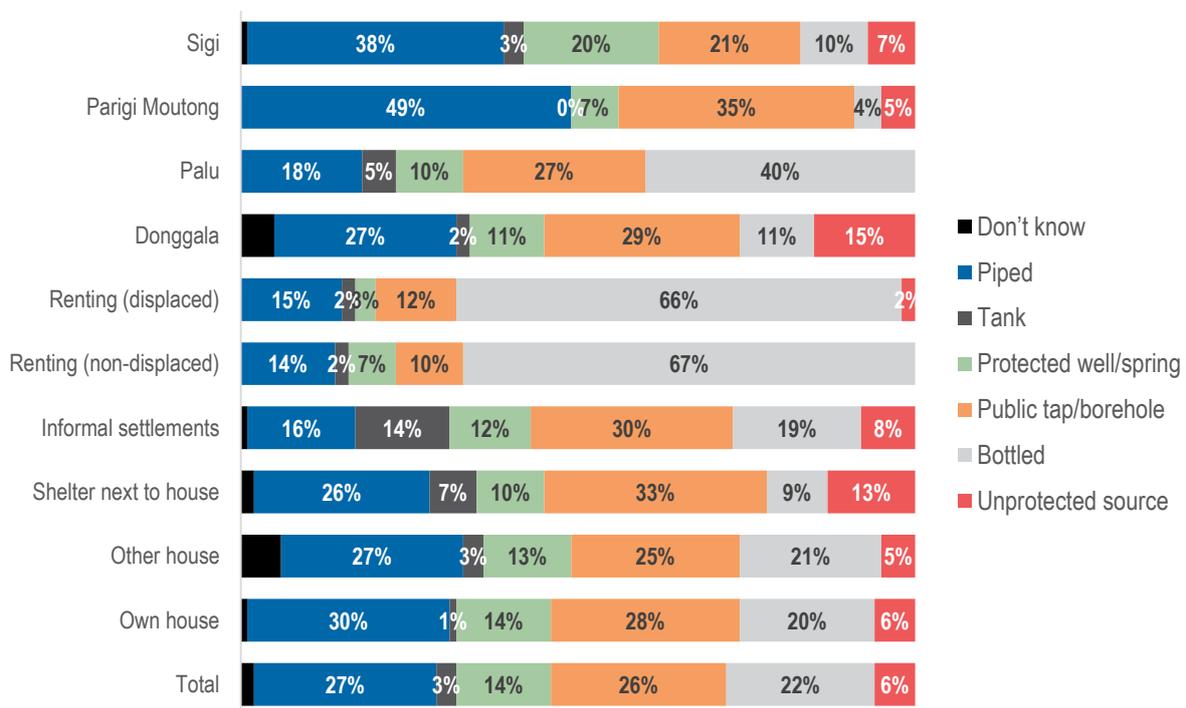
should be made with this population in mind.²⁰

Water, Sanitation, and Hygiene

Water

In contrast to concerns from previous assessments, water, sanitation, and hygiene conditions appear to have improved considerably since the disaster. However, although more clean water sources are available, the few public sources that exist are potentially not enough to serve the entire population. Nearly all households were getting water from an improved source, either piped directly into their homes, from a protected well or spring, or a public borehole or tap stand (see table below).²¹ Only 6% of the households reported relying on an unprotected source as their main water source, though this was much more common for those living in shelters outside of their homes (13%), and across all groups in Donggala Kabupaten (15%). Regardless of the source, 95% of households across all demographics and areas reported that they were drinking treated water that was safe to drink.

Graph 9: Main water source by Regency/City and displacement status



Households in Palu Town were most commonly relying on water from bottled water or kiosks, as was the renting population, reflecting a more market-dependent population. Populations in displaced locations were mostly getting their water from public sources like boreholes or tap stands, as reported by 30% of households living in informal settlements and 33% of those staying in tents outside of their homes. However, the use of communal sources has led to water shortages for many displaced communities; only 73% of households living in tents next to their homes, and 72% in informal settlements reported having enough water for all of their daily needs (cooking, cleaning, washing, etc.) compared to 87% of the average population. In addition, 19% of households in informal sites and 9% of households in tents outside of their homes were also getting the majority of their water from bottled water or kiosks, making them dependent on aid and markets for much of their daily water needs. Significant efforts by UNICEF and other NGOs were made to increase access of supply of water to IDPs in informal settlements during the first three months of the response, resulting in an increase of supply of water for 52,889 individuals.²²

²⁰ Humanity and Inclusion Indonesia, Disability Checklist (Revised), 2017.

²¹ UNICEF, "JMP: Drinking Water," 2017

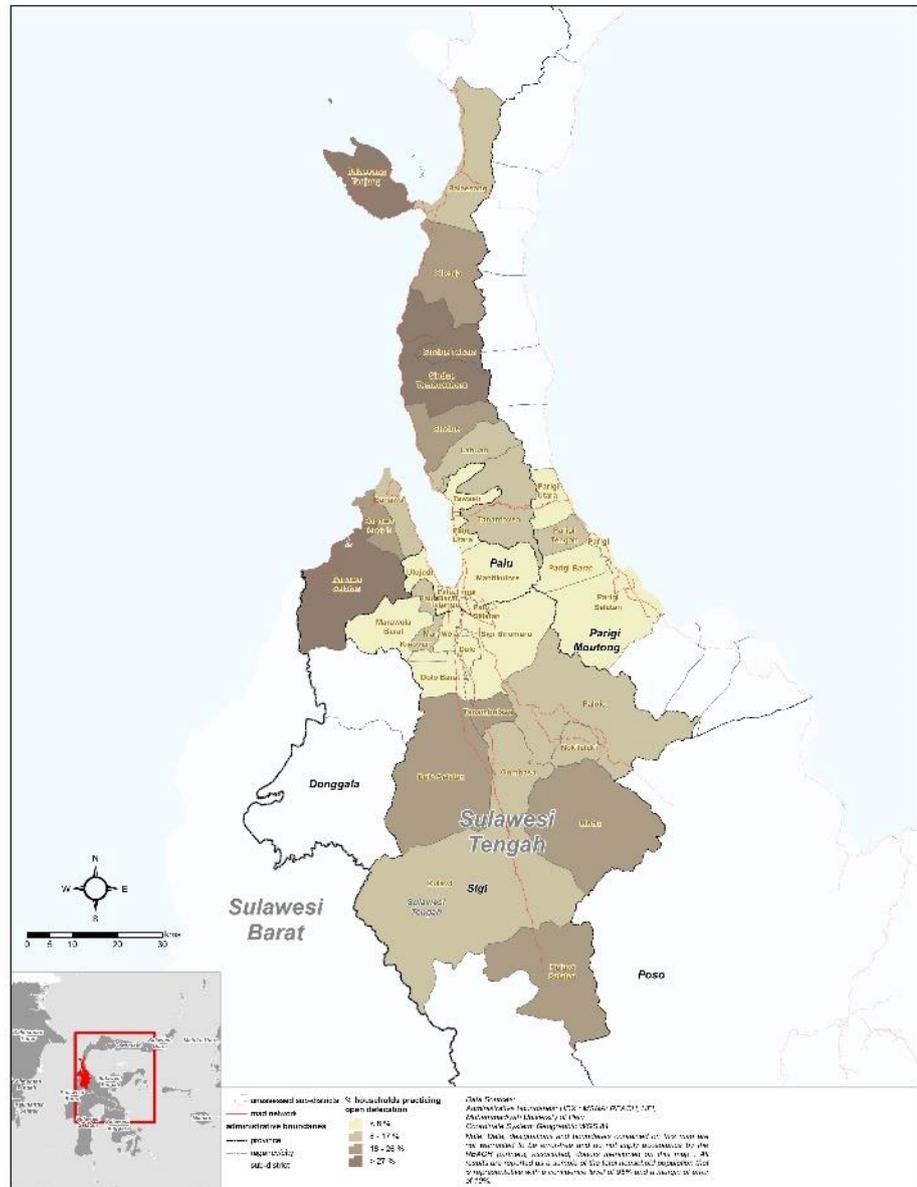
²² UNICEF, Indonesia Humanitarian Situation Report No. 5, 9 December 2019.

Sanitation

Generally, the sanitation situation in Central Sulawesi Province has improved since the initial disaster, when WASH, particularly in informal settlements, were of chief concern.²³ Though not directly comparable, the first DTM round found that almost 40% of all informal displacement sites did not have toilets available. According to household respondents, 71% of households were using individual latrines for defecation, and a further 18% were using communal latrines. Still, 9% of households still reported practicing open defecation, including 8% of those living in their own homes, which is concerning, as it increases the likelihood of the spread of disease.²⁴

While open defecation was overall reported by a relatively low proportion of households, it was found to be a major issue among those living in tents next to their homes (27%), suggesting that most WASH support has been limited to areas of concentrated IDPs, while those spread out have not received that same support. This is better than baseline data, which reported that only 80% of the population in Central Sulawesi had access to improved sanitation, suggesting that both efforts to install communal latrines following the earthquake have had a major effect.²⁵ The same report notes that rural areas, such as Donggala and Sigi, had worse levels of improved sanitation, which is reflected by the assessment data with 23% of Donggala households reporting practicing open defecation. This is likely due to a combination of cultural practices and lower infrastructure. Map 2 shows that open defecation tends to be more common in areas far from Palu Town, including Dolo Selatan, Gumbasa, Kulawi Selatan, and Lindu.

Map 2: Open Defecation by Sub-district

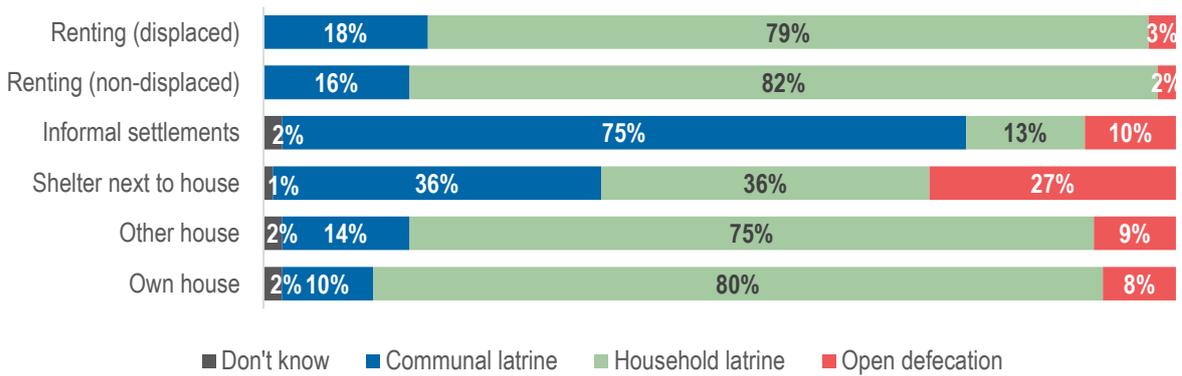


²³ IOM, Displacement Tracking Matrix: Central Sulawesi Round 1, 20 October 2018.

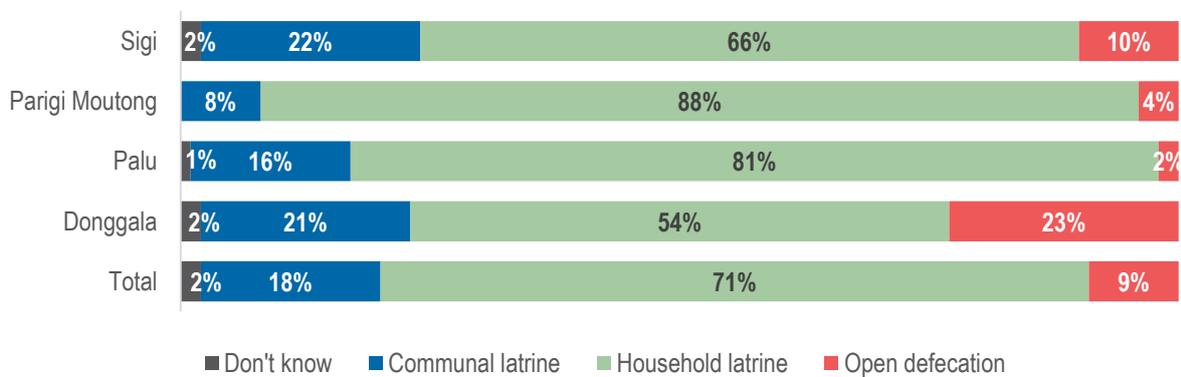
²⁴ WHO, "Sanitation," 2017.

²⁵ WHO South-East Asia, Situation Analysis: Earthquake & Tsunami, Sulawesi, Indonesia, October 2017.

Graph 10: Defecation Method by displacement status



Graph 11: Defecation method by Regency/City



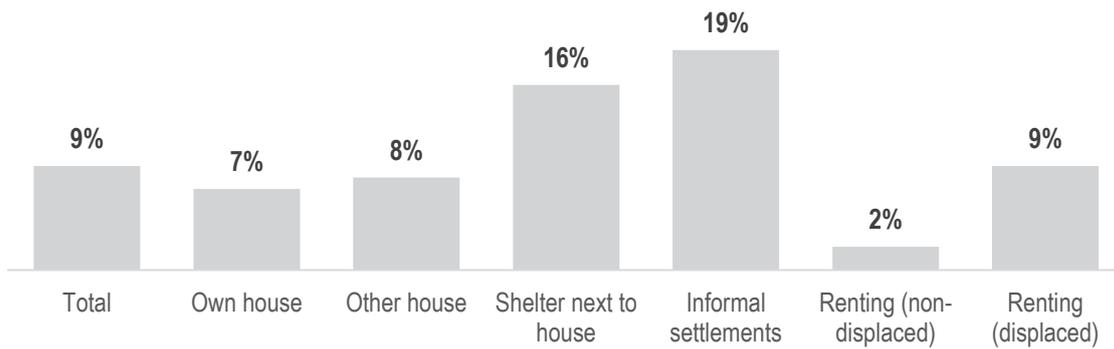
Use of communal latrines was more prevalent among households in informal settlements (75%), showing that humanitarian WASH interventions have been successful in reducing levels of open defecation in informal settlements.²⁶ On average 13 households were sharing each communal latrine, though the average number of households was twice as many in informal settlements (26). This was highest in Palu Barat (45), where most of the population from Balaroa, a liquefaction zone, is displaced in informal settlements, although numbers were also high in Kulawi and Banawa, where other large informal settlements are located. Regardless of the overall burden, households reported that most communal latrines had adequate lighting and locks on their doors. However, only 12% of the same households reported that they were using communal latrines that had separate toilets for men and women.

Hygiene

Most households reported having access to hand washing facilities, either from a pouring device (59%) or bucket (32%). Only 9% of households reported having no access to hand washing facilities. This was higher for displaced populations (see graph below), particularly those in informal settlements (19%) and living outside of their homes in tents (16%). In addition, 92% of households with access to handwashing facilities reported that water was readily available for handwashing, although only 64% reported that soap was available.

²⁶ UNICEF, Indonesia Humanitarian Situation Report No. 5, 9 December 2019.

Graph 12: % of households without a access to handwashing facilities, by displacement status



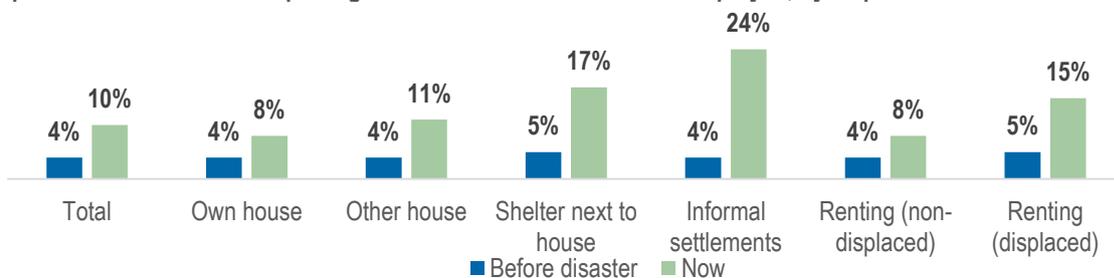
Most households reported that garbage in their area was disposed of through burning (49%). A quarter (24%) of households reported that it was dumped in designated areas, though 12% reported it was dumped in non-designated areas as litter. Overall, burning was a common practice in Donggala, Sigi, and Parigi Moutong while in Palu Town, disposal with bins and designated areas was more common. According to most households, garbage was collected the same day or week. However, a full third reported that it was never collected or removed from the area, indicating that improvements could be made in the disposal of garbage in the area.

Economy

Overall, livelihoods in Central Sulawesi were found to have mostly recovered in the six months prior to data collection, though further economic recovery can still be seen in lower income and higher rates of unemployment, particularly among displaced populations. Households reported that the main occupations that provided the household's income before the disaster were agriculture (32%), small business (18%), and government and services (8% each). Agriculture was most common in Donggala, Parigi Moutong, and Sigi regencies, but not in Palu, where small business, government jobs and services were more common.

As of early February 2019, the main types of occupations reported by households were about the same, indicating that most livelihoods across the affected area have mostly recovered. However, since the disaster the proportion of households reporting that they had no main occupation and were unemployed has more than doubled, from 4% to 10%. This is almost entirely in Palu, Sigi, and Donggala; Parigi Moutong had almost no households with no main occupation before the disaster (1%) and was found to have the same proportion in February 2019. No sector was found to have been affected disproportionately by the disaster, and all types of employment were reportedly equally affected. Female-headed households were more likely to have no main occupation and be unemployed than male households, likely reflecting traditional gender roles and a lack of opportunities for women to obtain necessary skills for jobs.

Graph 13: % of households reporting all household members are unemployed, by displacement status

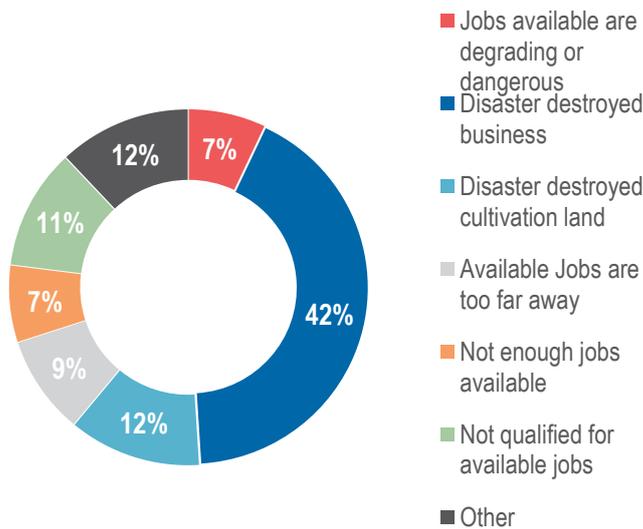


The effects of unemployment were also seen in purchasing power; households reported that they had lost an average of 10% income since the disaster. Groups that were displaced were disproportionately affected, and reported an average income loss of 20%. A World Food Programme (WFP) Market survey conducted in December

2018 found that although most businesses had reopened and prices and stocks of good had returned to pre-crisis levels, 61% of traders reported experiencing an overall decline in sales and overall output.²⁷

One-fifth of households also reported having at least a member who could work, but was unable to find a job. This was noticeably higher for displaced groups, including those in informal settlements (32%) and other houses (27%). This suggests that displacement has uprooted many IDPs from their traditional livelihoods and they have had difficulties sustaining themselves away from their traditional land and houses.

Graph 14: % of households with a family member that is able and willing to work but unable to find a job, by primary reason for unemployment



The main reported reasons were that their businesses were destroyed (42%) land destroyed (12%), or that they were not qualified for the available jobs (11%). Destroyed businesses was a larger issue in Palu and Donggala (reported by 57% and 46% of households having at least one member willing and able to work but unable to find a job, respectively) than in Sigi or Parigi Moutong, where destroyed land was a larger contributor to unemployment (41% and 23%). This is consistent with the main types of employment available in each regency/city.

Food Security

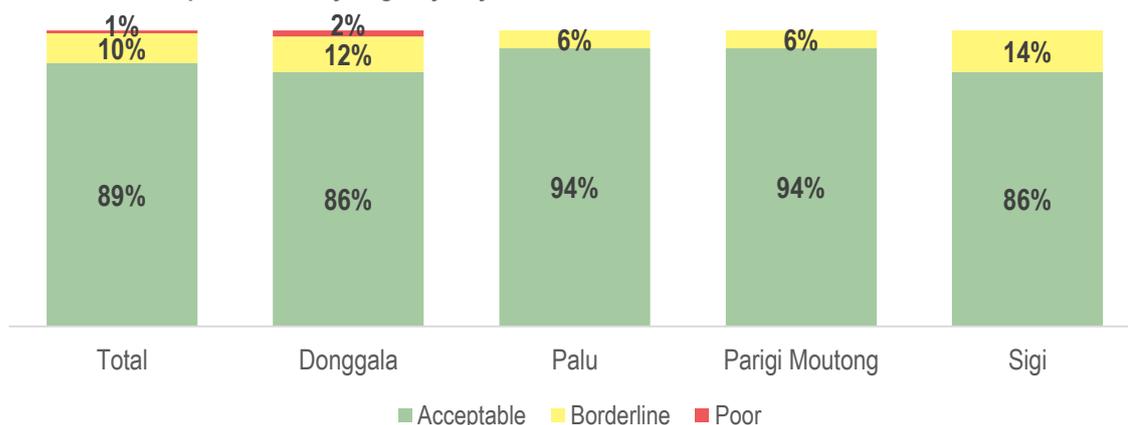
Food security across the affected area was found to have greatly improved, though there were worrying signs that deeper nutritional issues need to be addressed. As the WFP had already carried out a detailed market analysis, the assessment team focused on the demand side of food security issues, and examined what access to food households had and how they dealt with food shortages and other related issues.²⁸ REACH calculated both a Food Consumption Score (FCS) and a reduced Coping Strategies Index (rCSI) in order to identify key trends in food security across Central Sulawesi. Overall, FCS were mostly found to be acceptable (89% of households). A further 10% were borderline, and 1% were poor.²⁹ Scores tended to be worse in Donggala and Sigi, particularly in the remote sub-districts of northern Donggala and southern Sigi.

²⁷ WFP, Market Assessment in Central Sulawesi, Indonesia, December 2018.

²⁸ WFP, Market Assessment in Central Sulawesi, Indonesia, December 2018.

²⁹ FCS is a measure of food security that looks at how often foods are consumed over a 1 week period, in order to give an indication if the household is eating a sufficient amount of food. FCS was calculated using the WFP CARI methodology, by asking respondents how many days per week their household consumed different groups of food, which are then multiplied by a coefficient based on the food group, added up, and ascribed a ranking (acceptable, borderline, or poor) based on the number. WFP, Consolidated Approach for Reporting Indicators of Food Security (CARI), 2014.

Graph 15: Food Consumption Score, by Regency/City



rCSI, which looked at the household’s practices to make food last longer in the absence of sufficient food levels, suggested that most households were doing reasonably well. Overall, 3.3 was the average score, suggesting that most households have not had to adopt extreme coping strategies in order to make food last.³⁰ Like FCS, rCSI scores were higher and more worrying in remote areas: households in Donggala and Palu were found to have much higher rCSI scores, while those in Parigi Moutong and Sigi had far lower scores. The scores diverge when looking at displacement status. Those in informal settlements were found to have an average rCSI score of 6.6, and those living in tents outside their homes of 4.5, while most other population groups were below 3.

Table 4: Reduced Coping Strategy Index, by Regency/City

Kabupaten/Kota	rCSI
Total	3.3
Donggala	5.2
Palu	3.8
Parigi Moutong	0.7
Sigi	1.8

However, both FCS and rCSI tend to be measures of the quantity of food, rather than the quality, and therefore do not tell the full story. Households from all population groups and regencies/cities reported that food was both their greatest need and the most received type of aid in the previous month. Much of this aid is Indomei, (instant noodles), or grains.³¹ It

suggests that most households are lacking dietary diversity, and while they are receiving sufficient calories, there is likely very little nutrition in what most households are consuming. This can create severe health issues for much of the population later if the issue is not addressed, particularly for children, whom UNICEF noted in December 2018 were receiving insufficient breastfeeding and feeding practices.³²

The vast majority of households were obtaining their food through market purchases, although in a few very remote sub-districts of South Sigi regency, some households were reportedly growing their own food. In addition, WFP found that most households were extremely close to the markets that they shop at.³³ This increases the importance of the restoration of livelihoods in order for households to be able to have more money to purchase additional food.

³⁰ rCSI is a measure of food security that looks at a set list of five commonly practiced coping strategies that households might be using to make food last longer in the absence of sufficient foods. rCSI was calculated by asking respondents how many days per week their household adopted these coping strategies. The number of days was then multiplied by a coefficient based on severity of the coping strategy and the products were added up. There are no officially established thresholds, but generally, scores between 0 and 3 are considered to be good, 4 to 9 is worrisome, and those scores 10 or above are concerning (WFP VAM Unit, Afghanistan, Guidance note: calculation of household food security outcome indicators, December 2012).

³¹ [World Instant Noodles Association, Emergency Food Aid, 2019.](#)

³² UNICEF, Indonesia Humanitarian Situation Report No. 5, 9 December 2019.

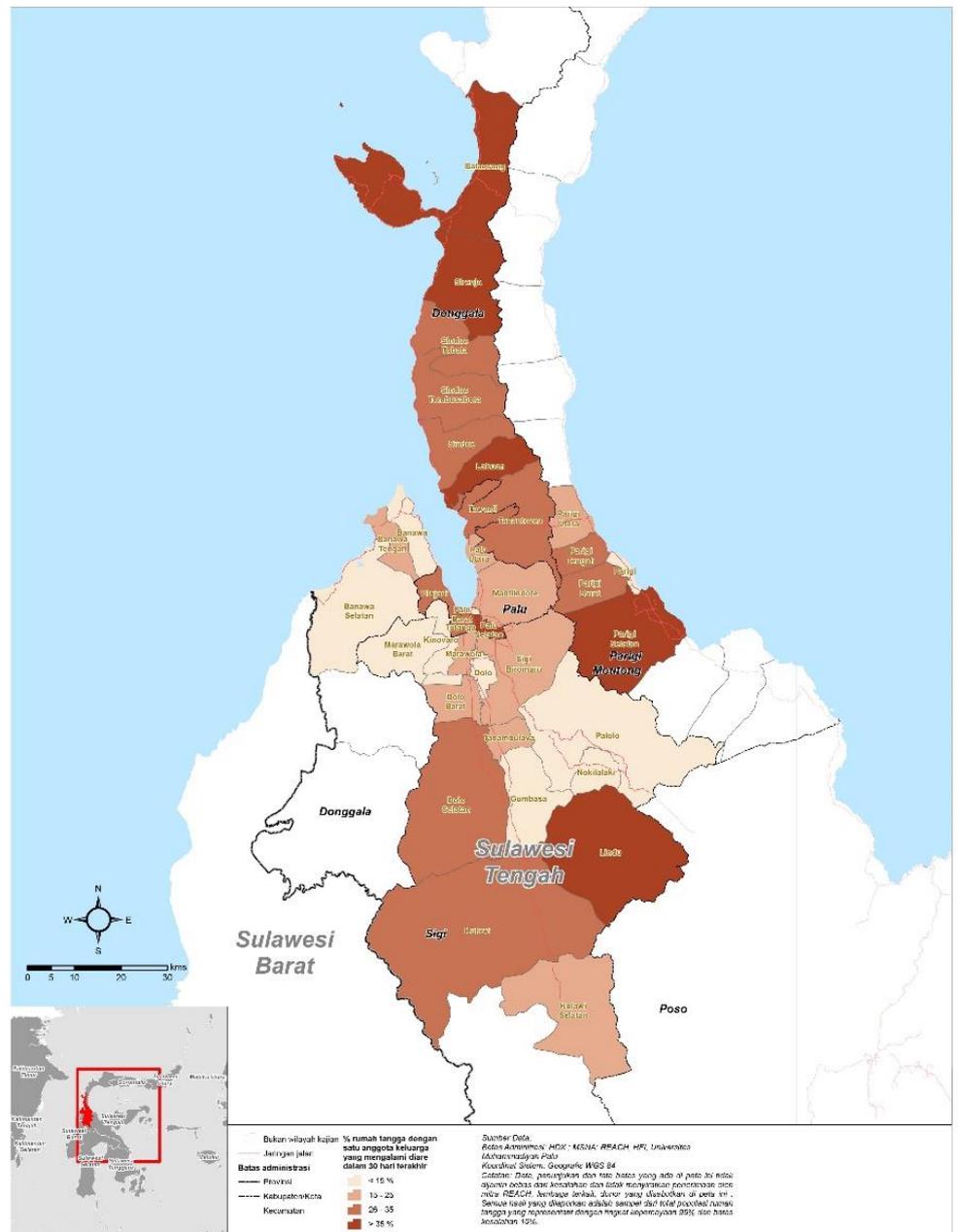
³³ WFP, Market Assessment in Central Sulawesi, Indonesia, December 2018.

Health

Health access was found to be similar across households from all displacement statuses and regencies/cities; 78% reported having no issues for accessing health care, though a sizable minority (9%) reported health care costs were prohibitively high for them, particularly in Donggala and Parigi Moutong.

Overall 40% of households reported that someone in their household had experienced a health issue requiring medical attention in the 30 days prior to data collection. Reported health issues were noticeably more common among displaced households (51% in informal settlements, 50% in tents, and 51% living in other people's houses), than among non-displaced households (37% in own homes, 26% displaced renters, 31% renters). This suggests that both the exposure and stresses associated with displacement have health implications for the population. In addition, higher proportions of households in Sigi and Donggala, more rural areas with worse health infrastructure, reported health issues than those in Palu or Parigi Moutong.

Map 3: Households reporting that a family member sought medical treatment for diarrhoea in the last 30 days, by sub-district



Fever and coughing dominated as the primary health issues of the previous 30 days, though 26% of households reported diarrhoea as a major issue. This was the largest issue for households living in tents outside of their homes (45%), which is unsurprising given the poor sanitation conditions reported by the same households. A third (33%) of households in informal settlements also reported diarrhoea as a main issue in the previous 30 days. In addition, reports of household members seeking treatment for diarrhoea were more common in more remote areas with worse WASH infrastructure, such as Donggala and Sigi. Higher proportions of households with at least one member seeking medical treatment for diarrhoea in the previous month were found in Donggala and Palu (29% and 28%,

respectively) and Parigi (24%) and Sigi (19%). Very high levels were observed in north Donggala (Balaesang, Balaesang Tanjung, and Sirenja Sub-districts).

Table 3: Main reported health issues in the previous 30 days

Reported health issue in the previous 30 days	Percentage
Fever	53%
Coughing	50%
Diarrhoea	26%
Hypertension	10%
Weight Loss	6%
Breathing Issues	5%
Injury	5%
Other	14%

In addition, 41% of households reported that there were no health issues that needed to be addressed in the 30 days prior to data collection. However, 29% of households reported that they had needed medication, and 35% that they had accessed health services to treat health issues. This was particularly prevalent in Parigi Moutong, where complaints over inadequate healthcare also were common among households (see, “Communicating With Communities, below). Over a quarter of

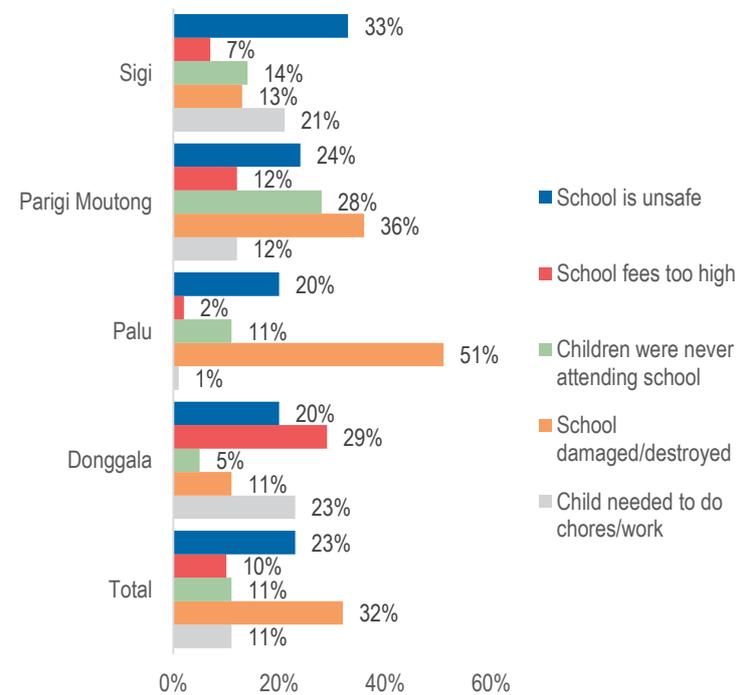
households in Parigi Moutong (26%) had also accessed health services for regular check ups.

Furthermore, 18% of households reported that there was at least one child in their household that had not been vaccinated.³⁴ On top of the stressful conditions of displacement, this further exposes children to contagious diseases, putting them at risk of further illness and potentially death. This was slightly higher among displaced households in informal settlements (22%) and those living in other homes (22%) compared to those in their homes (16%) or living next to their former homes (19%). If Measles, Mumps, and Rubella (MMR) immunization campaigns have not yet been conducted following the disaster, displaced families should be targeted first to reduce this gap.

Education

In order to complement a detailed assessment on attendance and school quality conducted by Save the Children on behalf of the Ministry of Education and Culture, the assessment team focused on broader attendance-based questions and reasons for non-attendance.³⁵ Overall, 4% of households reported that at least one child in the household was not attending formal education at the time of data collection (1 child on average). This suggests a large improvement since December 2018 when a UNICEF report found that only 70% of children had resumed schooling.³⁶ This proportion was relatively stable across geographic areas and displacement statuses. This was also consistent with pre-disaster proportions reported by the Indonesian Bureau of Statistics, suggesting that attendance has largely recovered since the disaster, and most of the households who have children not attending school are those that did not have children attending school before the

Graph 16: For households with at least one child not attending school, main reporting the reasons that the child is not attending school, by regency/city



³⁴ While high, this is not that far from the 12.8% found by UNICEF (Indonesia, Humanitarian Situation Report No. 5, 9 December 2019.)

³⁵ Save the Children Indonesia, Joint Education Needs Assessment, December 2018 (forthcoming)

³⁶ UNICEF, Indonesia Humanitarian Situation Report No. 5, 9 December 2019.

disaster.³⁷ However, support is needed for household in informal settlements, who were twice as likely to report at least 1 child in the household not in school.

Most households with children who were not attending school reported that the main reason was that the school had been damaged or destroyed (32%) or was no longer safe (23%). Destroyed schools were found to be a bigger issue in Palu (reported by 51% of households) and Parigi Moutong (36%) than in Donggala or Sigi (13% and 11%). This is likely because Palu was more severely affected by natural disasters and Parigi Moutong had overall a far lower proportion of households with children not attending school (2% of households). Households in Parigi Moutong were also significantly more likely (28%) than other households to report that their children were not attending school before the disaster as well.

Most schools were reportedly affected by the disaster, including many that are still functional: 25% of households reported that the nearest school had been lightly damaged, 29% moderately damaged, and 14% severely damaged or completely destroyed. Only 20% of households reported that the nearest school was in good conditions. An exception to this was Parigi Moutong, where most schools were reported to be in good conditions. A high proportion of households in informal settlements (40%) reported that the nearest school was destroyed; this is likely because the school was destroyed along with the surrounding buildings.

In Palu regency, the largest issues related to school attendance was the school being damaged (51% of households); reconstruction of schools should be a priority to ensure that students feel safe returning to school. In Sigi, households mainly felt unsafe and that the school might collapse (33% of households). In Donggala, the largest issue was school fees being too expensive (29%). Household in Parigi Moutong appears to be experiencing issues with damaged schools (36%) and children not attending school for other reasons before the disaster (28% of households reported that their children were not attending school before the disaster). These issues related to non-attendance before the earthquake may become issues as well as schools are repaired and other problems related to the disaster are addressed in other parts of Central Sulawesi Province.

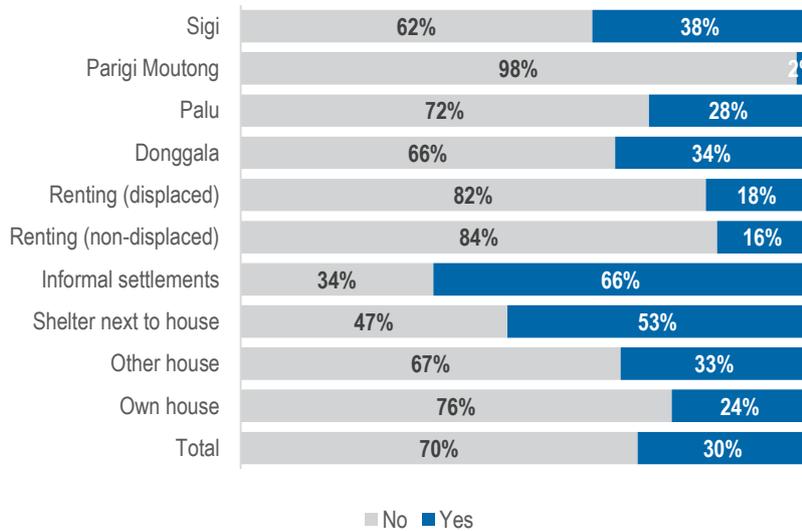
Communicating with Communities

Almost a third of households reported having received aid in the month prior to data collection. Displaced households, particularly those living in informal settlements and tents next to their houses, were far more likely to have received aid. While this generally reflects the overall needs of the population (those living in obvious displacement sites are likely in greater need than those who have not been displaced or have the resources to rent an apartment), it also shows that displaced households that are not easily identifiable are likely to be missed. Only a third of displaced households living in other houses, such as those of friends or relatives, reported having received aid. In addition, more obviously affected areas were more likely to receive aid as well, with the highest proportion of households receiving aid in Donggala and almost no households reporting having received aid in Parigi Moutong. More efforts need to be made to reach affected households outside of displacement settings.

Most aid reportedly came from the government (indicated to be the main source of aid by 48% of households that received aid during the previous month), regardless of the regency/city. NGOs were only found to be a substantial source of aid in Sigi and Donggala; and only in Parigi Moutong was the Indonesian Red Cross (PMI) reported to be a major source of assistance.

³⁷ Indonesia Bureau of Statistics, Kota Palu Dalam Angka, 2018; Indonesia Bureau of Statistics, Kabupaten Donggala Dalam Angka, 2018; Indonesia Bureau of Statistics, Kabupaten Sigi Dalam Angka, 2018; Indonesia Bureau of Statistics, Kabupaten Parigi Moutong Dalam Angka, 2018.

Graph 17: % of households that reported having received aid in the previous month, by regency/city and displacement status



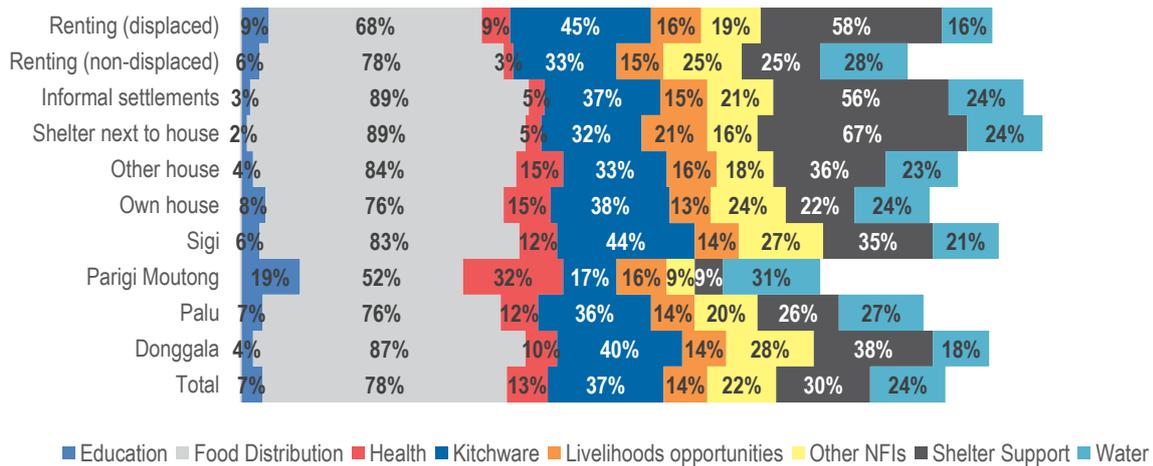
Most households that received aid in the previous month reported that they received food aid (91%) followed by water (17%) and shelter materials (17%). Displaced households were more likely to have received aid than non-displaced (see graph 18 above).

Over two-third (69%) of households that received aid in the previous month reported being satisfied with the aid that they had received. Those that were not (29%) reported that the main reasons they were not happy were because the aid was not enough (86%). Very few other complaints were registered.

The most needed type of aid by households in all four regencies was reportedly food (although a far lower proportion of households in Parigi Moutong considered it a top 3 need than other households, which makes sense, given that it was less affected than other areas). As noted in the food security section (above), the main need of households was also food, suggesting that a greater diversity of food needs to be delivered in order to avoid complications from malnutrition.

Kitchenware was also a major priority need across all displacement statuses, likely due to the general need for additional NFIs.³⁸ In Parigi Moutong, Healthcare was reported a top 3 need by 32% of households, which reflects an overall need for improved health services. Livelihoods opportunities were also requested, particularly among the displaced population, suggesting that additional support is needed to improve the livelihoods of the displaced population and population in general.

Graph 18: Priority Needs, by displacement status and Regency/City³⁹



³⁸ The assessment found similar needs to those highlighted by AHA centre in October 2018, suggesting that many of the requested items have either worn out or were not enough to meet the needs of the population (AHA Centre, Situation Update NO. 12, M 7.4 Earthquake & Tsunami, Sulawesi, Indonesia, 15 October 2018).

³⁹ Respondents were asked to select up to 3 responses; Percentages in this graph may add up to different total percentages based on responses.

CONCLUSION

Four months after the earthquake, tsunami, and liquefaction events, the population has still a large number of humanitarian needs. In order to understand the scope, needs, and vulnerabilities of the affected population, under the authority of the Kemensos-lead PP Cluster and Central Sulawesi government, HFI and UNISMUH, with support from REACH conducted a household-level assessment of 38 sub-districts in four affected regencies of Central Sulawesi Province. Below are the summary of key findings and recommendations based on the data.

While 26% of households are displaced outside of their own homes or apartments, only 9% are staying in the informal settlements targeted by previous assessments and interventions. Much of the displaced population is hosted (10%) either directly the houses of non-displaced households, or living in empty houses they do not own. Another 5% are living in tents outside of their homes.

The results show that needs tend to vary based on displacement status, rather than geography. Most households in Palu, Sigi, and Donggala have similar needs, in terms of food security and WASH. In Parigi Moutong, which was much less affected by the disaster, needs were often different and more related to health and education.

Displaced populations, particularly those living in informal settlements and those living in tents or makeshift shelters next to their former homes, were found to be the most vulnerable groups and remain the most affected by the disaster. They have suffered more economic loss, both in terms of income and employment, and will require more support rebuilding their businesses and resuming their livelihoods in a displaced setting. They are also twice as likely to have children who are not in school, and therefore in need of additional educational support. Displaced populations were significantly more likely to report health issues as well.

Although a plurality of the displaced population was living in other households' homes or being directly supported by the host community, they also experienced difficulties in accessing some services, particularly shelter support, and often had more difficulties receiving aid due to being more difficult to identify in the local population. Renters, although the most likely to be ignored by aid, generally reported the best service access, suggesting that ability to pay rent also generally implied an ability to access sufficient services.

The greatest need reported by households from different displacement settings was food, although food security indicators were positive and the most commonly received type of aid was food. This is likely due to a lack of diet diversity, in which starches and instant noodles are the main foods distributed to households. Additional diversity is critical to avoid nutritional complications that are likely to occur from this particular diet.

Education access has largely returned to the same levels as before the disaster; however, many children in Parigi Moutong were reported to have not been attending school before the disaster, suggesting underlying issues beyond school repair. Repairing damage to schools is unlikely to solve underlying issues leading children to not attend school.

Health issues, primarily coughing and fevers, were reported to be common, particularly by households that were displaced in informal settlements and in shelters next to their homes. These issues are likely to be compounded by unresolved issues around nutrition and sanitation; including the poor nutrition and sanitation environment and high instance of diarrhoea among IDP households.

Although WASH issues noted during the early response have largely been resolved, households displaced in tents or makeshift shelters next to their homes reported worrying levels of open defecation, and although there are sufficient communal latrines in informal settlements, they are overcrowded in many locations and lack many basic protection standards, particularly separated latrines for men and women.

Geographically, access to services in Palu was largely dependent upon displacement status: non-displaced households tended to access basic services more easily and sufficiently than IDPs. In Donggala and Sigi, the more remote the sub-district, the more difficult service access became. Households in North Donggala (Balaesang, Sirenja, and Balaesang Tanjung) and South Sigi (Kulawi, Kulawi Selatan, Lindu, Gumbasa, and Dolo Selatan) had

a more difficult time accessing sufficient food, and WASH services than those in sub-districts closer to Palu Town. Most households in Parigi Moutong were not affected and many of the household's complaints were focused more on development issues, like a lack of access to healthcare or insufficient water.

A majority of households, regardless of displacement setting, wanted to repair or rebuild their former homes and resume their former lives. However, households living in liquefaction and tsunami affected areas are unable to return and rebuild on their lands. Many have been relocated to government-built transitional shelters; but many others are still unable to return home and may need additional support in relocating to safer areas. In addition, much of the Central Sulawesi area that was not affected by liquefaction is liquefaction prone, and populations living there are vulnerable to future disasters.⁴⁰

Recommendations

Based on these findings, the following actions are recommended:

- Most households, regardless of displacement status, want to stay in their current locations for the next six months. Without alternatives like government transitional shelters or rebuilt homes, they will remain where they currently are; those households living in tents may require replacement shelters that may have worn out in the last 6 months.
- Shelter support should focus on empowering the local population to rebuild or repair their shelters. New areas to construct shelters will need to be found for those populations unable to return to their locations (such as liquefaction zone or tsunami vulnerable areas) and who do not have a place in the transitional shelters.
- Additional WASH support should be provided to households that are living in tents outside of their original shelters and informal settlements to reduce open defecation and improve overall sanitation and hygiene practices. This is particularly important due to numerous cases of diarrhoea and other diseases reported in these locations.
- Health services should be improved and made more easy to access, particularly in Parigi Moutong regency. Alongside sanitation interventions, additional preventative efforts should be made to limit the spread of diarrhoea and other contagious diseases, particularly in informal settlements and for households living in shelters next to their homes, where household members are reported to being more prone to diseases.
- Attendance rates of children attending schools were affected both by displacement and damage to the school. Resettlement of households and repair of schools are both likely to improve attendance rates. However, the higher proportion of households in Parigi Moutong with children not attending school likely indicates that there are deeper issues related to child attendance that will need to be addressed.
- Greater efforts need to be made to identify displaced households living in shelters they do not own and living with other households, as they are likely being missed by the aid providers.
- Improvement of healthcare access for displaced populations and households in Parigi Moutong should be ensured; this is likely to take the form of more affordable healthcare and more access to medicine.
- Additional psychosocial work to address potential trauma in the population need to be made; many households have members struggling with emotional issues related to the disaster and it likely has implications on health, movement intentions, and other areas of concern.
- Additional efforts should be made to improve the diversity and quality of food being distributed; the instant noodles and plain starch foods that have been distributed thus far lack nutritional value and are likely to contribute to malnutrition in the future if not supplemented with more nutritious foods.
- Economic recovery, particularly assistance re-establishing businesses and lines of credit, is critical for households across Central Sulawesi to meet their needs, particularly those related to food gaps, since most households reported getting most of their food from market purchases. Economic recovery is likely to be linked to an improvement in nutrition and food outcomes for the population.
- Aid has generally been directed towards the most needy sub-districts and displacement groups. However, the quantity and type of aid may need to be adjusted based on the needs of households in different areas and displacement statuses.

⁴⁰ The Conversation, "2012 research had identified Indonesian city Palu as high risk of liquefaction," 2018.

Over the next six months, households will continue to recover and rebuild their lives that were disrupted by earthquakes, tsunamis, and liquefaction in September 2018. However, many households, particularly those that have been displaced, still face challenges, and without additional support, may continue to struggle in their recovery. By targeting aid to the most in need, additional efforts can be made to help the population recover and rebuild following the disaster. With earthquakes continuing to occur across Central Sulawesi, the risk for additional displacement and new needs for the population is likely.⁴¹

⁴¹ Earthquakes continue to occur across Central Sulawesi as of March 2019 (Badan Meteorologi, Klimatologi, Dan Geofisika (BMKG), Gempabumi Dirasakan, March 2019).



ANNEXES

Annex 1: Household population and minimum sample size by Sub-district

Sub-districts	Number households	of	Sample size	Sample size including 10% buffer	Total number of planned interviews	Total number of actual interviews
Balaesang	6,776		95	10	105	118
Balaesang Tanjung	2,023		92	9	101	112
Banawa	8,902		95	10	105	112
Banawa Selatan	6,947		95	10	105	101
Banawa Tengah	2,937		93	9	102	98
Dolo	8,059		95	10	105	98
Dolo Barat	4,226		94	9	103	110
Dolo Selatan	4,587		94	9	103	120
Gumbasa	3,803		94	9	103	111
Kinovaro	3,663		94	9	103	105
Kulawi	4,463		94	9	103	109
Labuan	3,793		94	9	103	99
Lindu	1,562		91	9	100	126
Mantikulore	19,100		96	10	106	130
Marawola	8,760		95	10	105	118
Marawola Barat	2,434		92	9	101	115
Nokilalaki	1,702		91	9	100	106
Palolo	9,187		95	10	105	120
Palu Barat	14,858		95	10	105	114
Palu Selatan	21,476		96	10	106	98
Palu Timur	14,451		95	10	105	111
Palu Utara	6,574		95	10	105	107
Parigi	8,801		95	10	105	126
Parigi Barat	2,520		93	9	102	111
Parigi Selatan	7,220		94	9	103	109
Parigi Tengah	2,873		93	9	102	110
Parigi Utara	1,989		92	9	101	116
Sigi Biromaru	15,397		95	10	105	127
Sindue	5,444		94	9	103	119
Sindue Tobata	2,761		93	9	102	122
Sindue Tombusabora	3,464		93	9	102	125
Sirenja	5,281		94	9	103	108
Tanambulava	2,641		93	9	102	109
Tanantovea	3,873		94	9	103	99
Tatanga	13,578		95	10	105	104
Tawaeli	6,334		95	10	105	118
Ulujadi	8,799		95	10	105	110
Kulawi Selatan	2,668		95	10	105	113
Grand Total	253,926		3,573	359	3,932	4,264

Annex 2: Household Questionnaire

IN #	Indicator / Variable	Questionnaire Question	Question type	Questionnaire Responses
1	Kabupaten	Current Kabupaten	Select one	Admin list (of Kabupatens)
2	Kecamatan	Current Kecamatan	Select one	Admin list (of Kecematans)
3	Desa	Current Desa	Select one	Admin list (of Communities)
4	Primary type of settlement (top 1) % of Households living in an informal/spontaneous site	Where are you are currently living?	Select one	Informal / spontaneous site Collective housing (own person's house) Residential housing (other person's house) Residential Tent, not in spontaneous site or next to house Other (specify)
5	na	Hello, my name is __. We are conducting interviews in order to inform the Central Sulawesi government and Ministry of Social Affairs on your needs following the September earthquake. The survey is carried out by Humanitarian Forum Indonesia on behalf of Komensos, the Ministry of Social Affairs and SEKDA of Central Sulawesi Province. All data will be used by the Ministry of Social affairs and local government to identify the needs of the population in Palu, Sigi, Donggala, and Parigi Moutong Districts and improve their response. This interview will take around 45 minutes, and your answers will remain confidential and you are free to end at any moment during the survey. Do you agree to participate?	Select one	Yes; No
6	Head of household	Are you the head of household?	Select one	Yes; No
7	Respondent age	What is your age?	Integer	
8	Respondent gender	What is the respondent's gender?	Select one	Male; Female;
9	Consent	If you are not the head of household, are you knowledgeable about household affairs?	Select one	Yes; No
10	Age of Head of Household	What is the head of the household's age?	Integer	
11	Gender of Head of Household	What is the head of the household's gender?	Select one	Male; Female; don't want to answer
12	Obtain household roster - age and sex of each member, starting with the head of household	How many members are there in your household?	Integer	
13	na	I will now ask you some questions regarding each individual member of your household. An ordinary household is a person or group of people who inhabit part or all of the physical building, and usually eat together from one kitchen. What is meant by eating from one kitchen is taking care of the daily needs together as one. **Please start with the head of your household and please don't forget to include yourself and people that may be just short-time guests! Do not include other households who may be staying with you in your shelter!**		
14	% of [male/female] household members	What is the gender of the person?	Select one	Male Female
15	% of [babies (<1) / infant (1-5) / children (6 to 12) / teenagers (13-17) / adult (from 18 to 59) / elderly (above 60)] household members	What is the age of this person?	Integer	% of [babies (<1) / infant (1-5) / children (6 to 12) / teenagers (13-17) / adult (from 18 to 59) / elderly (above 60)] household members
Displacement and Protection				
16	% of IDPs	Did your household move to the shelter because they were displaced by the September earthquake?	Select one	Yes; No; Don't know

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17	% of Hosts	Does your household host someone who was displaced by the September earthquake?	Select one	Yes; No; Don't know
18	Proportion of host/hosted households	If yes, how many people (individuals) is your household hosting?	Enter number	
19	% of IDPs living more than 10 minutes from their original home	How far is your current location from your original home?	Select one	Same location Less than 10 minutes Between 10 and 20 minutes Between 20 and 30 minutes More than 30 minutes Don't know Other (please specify)
20	% of Households that intend to remain/return in the next three months	Where does your household intend to move within the next 6 months?	Select one	Remain in the current location Return back to original home (Huntara) Move into the Government Transitional Shelter (Huntara) Move to another location - inside Palu Move to another location - outside Palu Do not know - waiting to make a decision Other (specify)
21	% of IDP and Host Households by reason not wanting to return/stay	What is the main reason why you do not want to live in the place you used to live in before the September earthquake?	Select Multiple	House destroyed/severely damaged Heavy damage to house Mild damage to house House looted/occupied Unavailability of basic services (e.g. water, electricity, health, education) Lack of livelihood opportunities Legal and physical protection concerns (e.g. threats of violence; GBV risk, etc.) Land is lost to natural disaster Fear that land is still unsafe Fear that house is still unsafe Area may be declared a nonbuild (red) zone Lack of financial means Other (Specify) Don't know
Shelter				
22	% of IDP Households preference for shelter support	If you plan to return home, what type of long-term support would you most want for rebuilding your shelter?	Select Multiple	No assistance (no money, design help, or construction help) Temporary housing (a place to stay while the shelter is built) Financial assistance (receive money) Technical assistance (help designing shelter) Construction assistance (help building the shelter) Other (Specify)
23	% of Households whose house was destroyed or damaged	Was your shelter damaged or destroyed by the September earthquake?	Select one	Yes (destroyed); Yes (damaged); No; Other (specify); Do not know
24	Primary type of shelter (top 3) % of Households living in substandard shelter type (unfinished, abandoned, non-residential/public buildings, tent, makeshift shelter)	What type of shelter are you currently living in?	Select one	House Apartment/Renting Unfinished or abandoned residential building Tent Religious building Public building (school, religious buildings, etc.) Non-residential structure (garage, farm house, shop) Container Makeshift shelter (with scavenged materials) Barracks/Huntara Collectif (specify) Other Don't know
25	Primary type of tenancy agreement (top 1)	What type of occupancy agreement do you have for your current shelter?	Select one	No tenancy agreement (not expired) Written valid tenancy agreement (expired) Written valid tenancy agreement (expired) Verbal tenancy agreement We own the house/tent Other (specify) Don't know
26	% of Households facing risk of eviction	Is your household at risk of eviction right now?	Select one	Yes; No; Don't know; Decline to answer
27	Primary causes that would lead the HH to be evicted (top 3 answers)	What are the main reasons your household is at risk of eviction?	Select one	Lack of funds to pay rental costs. Host household no longer able to host our household. Local community does not accept our household living in the area. Authorities requested our household to leave. Request to vacate from owner of building/land. Other (specify) Don't know
28	% of the households that have lost ownership documents due to the disaster	Have you lost your house ownership documents during the disaster?	Select one	Yes (Lost them) No (Still have them) No (I was renting before/ I never had them) Other (please specify)
29	Households priority shelter needs	What outcome would you prefer to improve your household's shelter situation for the next six months?	Select three	Rebuild or repair original home Construct new home on different land in new location (in Central Sulawesi Province) Construct new home on different land in new location (not in Central Sulawesi Province) Rent a new home Move in with family and friends (in Central Sulawesi Province) Move in with family and friends (not in Central Sulawesi Province) Move to Huntara collectif Improve basic infrastructures and utilities (access to electricity, water supply cooking and bathing/toilet facilities)

				Obtain emergency shelter materials (Tarp, tents, etc.) Improve protection from hazards (flooding, tsunami, landslides, etc.) Improve privacy and dignity (no separate rooms, not enough space, shared facilities such as toilets & showers, etc.) Protect shelter from climatic conditions (leaking roof, floor not insulated, opening on the walls, broken windows, lack of ventilation, missing heating system, etc.) Other (specify) Don't know
30	Households items and support needed by Households to achieve priority shelter needs	What assistance do you need to do this? (improve your shelter situation)?		Transport to move in with family and friends; Help to find rental arrangements; Help to pay for rental arrangements; Space to stay in Huntara collectifs; Assistance to build/repair a shelter on own land; Assistance to build/repair shelter on friend or families land; Support to repair tent or Tarpaulin Distribution of Tarpaulin Distribution of Tent Opportunities to work/ rebuild livelihoods Provide Water supply to shelter Provide Electricity to shelter Advice/training on how to rebuild shelter; Knowledge about future natural disasters; Help to obtain legal documentation for land/home ownership/etc.; Information on relocation; Construction Labour; Building materials (concrete, wood) Tools for construction Other please specify
31	Households main priority NFI needs	Which of the following items does your household need the most?	Select three	Bedding items (bedsheets, pillows); Mattresses/Sleeping mats Blankets Cooking utensils/kitchen set; Cooking fuel stove Water storage Sources of light Clothing Fan Air water cooler (AWC) Coolbox Fuel storage None of the above Other, please specify
Child Protection				
32	% of Households with hosting at least one separated child	Among your household members, is there any child separated from their usual caregivers?	Select one	Yes; No; Don't know
Protection of Women's Needs				
33	% of Households with at least one member either pregnant or lactating	Among your household members, is there any pregnant or lactating woman?	Select one	Yes; No; Don't know
Disabilities, Elderly, Minorities				
34	% of Households with at least one member having disabilities	Does any member of your household have any disabilities?	Select one	Yes; No; Don't know
Psychosocial Support				
35	% of Households with at least one member of the HH experiencing emotional distress since the earthquake	Is there a member of the Household who is experiencing distress since the earthquake in September 2018?	Select one	Yes; No; Don't know
Economy				
36	Primary source of employment for the HH prior to the disaster	What was the main occupation / employment for the household before the disaster?	Select one	Agricultural Construction Service industry (janitor, waiter, etc.) Vocational (carpenter, electrician, plumber, or Other professional) Teacher, lawyer, engineer Small business owner Government job Home-based income-generating activity (sewing, shoe repair, small agricultural activity (garden, beekeeping, etc.) Unemployed Other (Specify) Don't know
37	Primary source of employment	What was the main occupation / employment for household members over the last 30 days?	Select one	Agricultural Construction Service industry (janitor, waiter, etc.) Vocational (carpenter, electrician, plumber, or Other professional) Teacher, lawyer, engineer Small business owner Government job Home-based income-generating activity (sewing, shoe repair, small agricultural activity (garden, beekeeping, etc.)

				Unemployed Other Don't know (Specify)
38	% of households with at least one member in working age that has not worked during the previous 30 days	Among the members of the household is there a person of working age (18-60) who currently does not work?	Yes; No; Don't know	
39	Primary obstacles in finding work for those currently looking for opportunities	What are the main problems, if any, this person facing in finding work?	Select multiple	The September earthquake destroyed previous business/job opportunities Increased competition for jobs; not enough jobs for everyone Available jobs are too far away Only low-skilled, socially degrading, dangerous, or low-paid jobs are available Underqualified for available jobs Lack of household/personal connections Lack of work skills/education Not interested in working No need for working Other
40	Mean Households total income in the past 30 days (after the September earthquake)	What was your monthly household's total income in Indonesian Rupiahs over the last 30 days (after the September earthquake)?	Select one	Enter number of Rupiahs
41	Mean Households total monthly income before the September earthquake	What was your monthly household's total income in Indonesian Rupiahs before the September earthquake?	Select one	Enter number of Rupiahs
Food security				
42	% of households with {poor, borderline, acceptable} Food Consumption Score (FCS)	How many days in the last 7 days has your household eaten the following food items? RESPONSE REQUIRED FOR EACH: Rice, roots, tubers, cereals, grains, pasta, bread, potato Legumes / nuts : beans, peanuts, lentils, nut, soy, and / or other nuts Milk and other dairy products: fresh milk / sour, yogurt, cheese, other dairy products (Exclude margarine / butter or small amounts of milk for tea / coffee) Meat, fish and eggs: goat, beef, chicken, fish, including canned tuna, and / or other seafood, eggs (meat and fish consumed in large quantities and not as a condiment) Vegetables and leaves: spinach, onion, tomatoes, carrots, peppers, green beans, lettuce, cabbages, egg plants, etc. Fruits: banana, apple, lemon, mango, watermelon, apricot, peach, pineapple, passion, gishta, orange, avocado, wild fruits etc. Oil / fat / butter: vegetable oil, palm oil, margarine, other fats / oil Sugar, or sweet: sugar, honey, jam, cakes, candy, cookies, pastries, cakes and other sweet (sugary drinks) Condiments / Spices: tea, coffee / cocoa, salt, garlic, spices, yeast / baking powder, lanwin, tomato / sauce, meat or fish as a condiment, condiments including small amount of milk / tea coffee.	Integer	
43	Primary sources of food % of households obtaining food through begging	What was the main source of food for the household in the last 7 days?	Select one	Purchased with own cash Purchased with cash assistance Purchased with food vouchers Purchased on credit (debt) Own production (including hunting, fishing, gathering) Gift of food from household or friends Received in-kind for labor or other items Food assistance from government Food assistance from UN or international organizations Food assistance from local charity or community Begging Other (describe) Don't know
44	Food Coping Strategy Index	During the last 7 days, how many times (in days) did your household have to use one of the following strategies to cope with a lack of food or money to buy it? 1. Eat cheaper and less quality food items 2. Borrow food or ask assistance from relatives and friends	Integer	

		<p>3. Reduce the number of meal eaten each day.</p> <p>4. Eat less food at each meal</p> <p>5. Adults eat less so that children can eat more</p>		
45	HH expenditure on Food; % of Households spending half or more of their income expenditure on food	<p>How much money (IDR) did your household spend on each of the following food items in the last 7 days?</p> <p>RESPONSE REQUIRED FOR EACH: Rice, roots, tubers, cereals, grains, pasta, bread, potato Legumes / nuts : beans, peanuts, lentils, nut, soy, and / or other nuts Milk and other dairy products: fresh milk / sour, yogurt, cheese, other dairy products (Exclude margarine / butter or small amounts of milk for tea / coffee) Meat, fish and eggs: goat, beef, chicken, fish, including canned tuna, and / or other seafood, eggs (meat and fish consumed in large quantities and not as a condiment) Vegetables and leaves: spinach, onion, tomatoes, carrots, peppers, green beans, lettuce, cabbages, egg plants, etc. Fruits: banana, apple, lemon, mango, watermelon, apricot, peach, pineapple, passion, gishta, orange, avocado, wild fruits etc. Oil / fat / butter: vegetable oil, palm oil, margarine, other fats / oil Sugar, or sweet: sugar, honey, jam, cakes, candy, cookies, pastries, cakes and other sweet (sugary drinks) Condiments / Spices: tea, coffee / cocoa, salt, garlic, spices, yeast / baking powder, lanwin, tomato / sauce, meat or fish as a condiment, condiments including small amount of milk / tea coffee.</p>	Integer	
WASH				
46	% of households by primary sources of drinking water	What is the main source of drinking water used by your household?	Select one	<p>Piped drinking water sources connected to their house (or neighbor's house)</p> <p>Bottled water</p> <p>Hydrant or Public tap/Standpipe</p> <p>Hand pumps/borehole wells</p> <p>Wells that are not protected</p> <p>Wells that are protected</p> <p>Water seller/kiosks with clean water</p> <p>Protected spring</p> <p>Unprotected spring</p> <p>Rain water collection shelter</p> <p>Water tank / water trucking</p> <p>Surface water (lake, pond, dam, river)</p> <p>Other (specify)</p> <p>Don't know</p>
47	% of households with clean drinking water	Is the household's drinking water treated so it is safe to drink?	Select one	Yes; No; Don't know
48	% of households with enough water to meet their needs for drinking, cooking, bathing and washing water needs	Does your household currently have enough water to meet its needs for drinking, cooking, bathing and washing?	Select one	Yes; No; Don't know
49	% of Households by time (minutes) taken to fetch water (round trip by walking, queuing and time needed to fetch water)	How long does it take to walk to your main water source, fetch water, and return (including queuing at the water source)?	Select one	<p>Water is available on the premises</p> <p>Less than 10 minutes</p> <p>Between 10 and 20 minutes</p> <p>Between 20 and 30 minutes</p> <p>More than 30 minutes</p> <p>Don't know</p> <p>Other (please specify)</p>
50	% of Households with access to functioning handwashing facilities - by type of facility	Where do your household members usually wash their hands? (Ask to see the place)	Select one	<p>Pouring device</p> <p>Basin or bucket</p> <p>No specific handwashing device</p> <p>Other (specify)</p> <p>Don't know</p>
51	% of HH with water available at handwashing facility	(Observe): Is water available at the place for handwashing?	Select one	Yes; No; Not allowed to see the handwashing place
52	% of HH with soap available at handwashing facility	(Observe): Is soap available at the place for handwashing?	Select one	Yes; No; Not allowed to see the handwashing place
53	% of Households by defecation practice	Where do your household members usually go to defecate?	Select one	<p>Household latrine</p> <p>Communal latrine</p> <p>Open defecation</p>

				Other Don't know (specify)
54	% of HH sharing sanitation facility - by number of HH per sanitation facility	If you use shared or communal latrines, how many different households use this sanitation facility (latrine/toilet)?	Integer	
55	% of Households using a sanitation facility - by type of sanitation facility used	What type of sanitation facility (latrine/toilet) are used?	Select one	Flush or pour/flush toilet Pit latrine Ventilated Toilet Composting toilet Bucket toilet Hanging toilet/latrine Using plastic bags Other (specify) Don't know
56	% of Households with sanitation facilities that meet gender standards	Do toilet facilities have the following things?	Select multiple	Adequate separate toilets for men and women Lighting for men and women Locks on the door Inside of a building None
57	% of Households by garbage disposal practices	What is the most common way your household disposes of garbage?	Select one	Bin in the household/streets In an open area in a space that is designated to dispose of garbage In open area that is not a place designated to dispose of garbage Bury it Burn it Other (specify) Don't know
58	% household that have access to sufficient solid waste collection and disposal (at least weekly)	How frequently is solid waste collected from your neighborhood?	Select one	Every day Every week Every two weeks Every month More than every month Service not available Other (specify) Don't know
Education				
59	% of Households with children aged between 6 - 15 not attending formal education during the school season	Among the members of the household is there a person (6-15) who currently does not attend formal education following the earthquake?	Select one	Yes; No; Don't know
60	% of Households with children aged between 6 - 15 not attending formal education during the school season	How many members of the household (6-15) do not currently attend formal education following the earthquake?	Integer	
61	Most reported reason for not attending school	If the child(ren) does not attend formal education, what are the main reasons?	Select Multiple	School was damaged or destroyed by the September earthquake/tsunami Fear that schools in not a safe place/ may collapse from damage The household is displaced and the school is too far Route to school is too dangerous School has no space or is overcrowded School fees are too expensive Teachers have been displaced, died, are in hospital or are missing Quality of teachers is not good Child needs to stay at home and assist with household chores Household needs the child to participate in remunerative activities No access to adequate or separate WASH facilities Child has been married Child has died Child is missing Child's parents have died Child is in the hospital Child is traumatized from disaster Children were not attending school before the disaster (specify) Other (specify)
62	% of Households reporting school in the community to be totally damaged or destroyed	What is the condition of the primary/secondary school building?	Select one	Classrooms are severely damaged/ completely destroyed Classrooms are moderately damaged Classrooms are lightly damaged Classrooms are in good condition Classrooms are occupied by displaced people Classrooms are being used for other, non-school purposes (specify) I don't know Other (specify)
Health				
63	% of Households with at least 1 child under 5 who has not been immunized with vaccines.	Are there any children in the household that have not been immunized?	Select one	Yes; No; Don't know
64	% of Households with at least one member reporting health issues/illnesses in the past 30 days	In the past 30 days, has any of your household member suffered from health issues/illnesses?	Select one	Yes; No; Don't know

65	% of Households with at least one member reporting health issues/illnesses in the past 30 days	If yes, what of the following health issues/illnesses the person has suffered from in the past 30 days?	Select multiple	Serious physical injuries (broken bones, burns) Fever Diarrheal diseases Extreme weight loss Difficulty breathing Coughing Skin rashes or inflammation Swollen feet Jaundice (yellow discoloration of Skin or eyes) Diabetes Hypertension Other health issue (specify) None
66	% of households needing to access health services in the last month prior to data collection	In the last month why have any members of the household needed to access health services or treatment (including medicines)?	Select multiple	Treat health problems (from previous question) Get vaccination/immunization Get regular medications Regular Follow-up/check-ups Continuation of treatment/therapy for TB Continuation of treatment/therapy for diabetes Continuation of treatment/therapy for hypertension Continuation of treatment/therapy for mental health issue
67	Primary barriers to accessing healthcare (top 3), among those accessing health services in previous 3 months	Has this person had any issues to access health services or treatment (including medicines)? If yes, which one?	Select one	No information about where health facilities are available Patient cannot physically access treatment Cost of medicine/treatment was too high No medicine/treatment available Health center damaged / destroyed Health center was too far away / no transport available Health center not open Problems with civil documents Gender discrimination Other (specify) Don't know
Priorities				
68	Households top priority needs (top 3)	What are the top 3 priority needs for your household? (Do not read out the list)	Select top three	Food Medical care Shelter support Water Sanitation services Electricity Clothing or footwear Kitchen ware Other non-food items Employment (livelihood opportunities) Education for children Child-friendly spaces or activities GBV support Psychosocial support Legal assistance (civil documentation, HLP, household law) Other (specify) Don't know
Accountability to affected people				
69	% of households by information needs	What type of information would you like to receive from aid providers?	Select one	Status of housing Livelihoods Water services Electricity services Education Healthcare Humanitarian assistance Legal services Housing land property services Renewing official documentation I don't want to receive more information Other (specify)
70	% of households by preferred mean of receiving information	What is your preferred means of receiving the information?	Select one	Face-to-face communication (e.g. from friends) Television Telephone/mobile phone (Voice Call) Mobile Phone (text SMS) Facebook (app) Facebook (messenger) WhatsApp Other social media (Skype, Instagram, Twitter) Notice board and poster Newspapers or magazines Printed leaflet Loud speakers Radio Other (specify) Don't know
71	% of households having received humanitarian aid in the past 30 days	Have you received aid in the past 30 days?	Select one	Yes; No; Don't know
72	% of households having received humanitarian aid	What kind of aid did you receive?	Select multiple	Cash Food Water

	in the past 30 days by type of aid received			Sanitation Fuel Shelter Tarpaulin Tents host housing Construction Materials Tools Shelter design assistance rental assistance Communication Other non-food items Health Education Protection services (legal assistance; psycho-social support; GBV services; child protection services; explosive hazard risk education, etc.) Other (specify) Don't know
73	% of households by main sources of assistance	What has been the main sources of aid that you have received?	Select multiple	Friends and family Purchased from market Obtained by themselves NGO distribution Religious Organization Government distribution PMI (Indonesian Red Cross) Other, please specify:
74	% of households having received humanitarian aid in the past 30 days that are satisfied by the aid received	If you have received aid in the last 30 days, are you satisfied with the aid you received?	Select one	Yes; No; Decline to answer
75	% of households having received humanitarian aid in the past 30 days by reason of dissatisfaction for the aid received	If you are not satisfied with the assistance you received in the last 30 days, what is the reason?	Select one	Quality not good enough Quantity not enough Delays in delivery of aid Aid received is not useful/relevant (specify) Other Don't know