INDONESIA

Central Sulawesi Earthquake, Tsunami, and Liquefaction: Population Needs

Multi-Sector Needs Assessment: Sub-District Profiles, Palu City

February 2019
Background and methodology

Following a 7.7 magnitude earthquake on 28 September, 2018, large parts of Palu, Donggala, Sigi, and Parigi Moutong regencies in Central Sulawesi province were destroyed by earthquake, tsunami, and liquefaction events. As of 10 December 2018, approximately 2,101 people have been killed, 1,373 are missing, and an estimated 133,631 individuals were displaced in informal settlements. An estimated 15,000 houses have been destroyed and another 17,000 heavily damaged. However, four months after the initial disaster, there is still very little understanding of the needs and vulnerabilities of the affected population in Central Sulawesi Province.

To fill this gap, a Multi-Sector Needs Assessment (MSNA) was conducted by Humanitarian Forum Indonesia (HFI) and Universitas Muhammadiyah Palu (UNISMUH) with oversight from the Ministry of Social Affairs (Kemensos) and technical support from REACH, in 38 of 62 sub-districts in the four affected regencies of Central Sulawesi Province.

A sample of 130 out of a total population of 253,926 households were surveyed across the four affected regencies between 22 January and 6 February 2019. Results were weighted by population and generalizable to the crisis level with 95% confidence level and 10% margin of error.

Demographics

Household composition by gender and age

- 3% 60+ years
- 29% 18–59 years
- 7% 13–17 years
- 5% 6–12 years
- 4% 1–5 years
- 2% <1 year

There was an average of 5 individuals reported per household

Head of Household

- 19% of heads of households were female
- 15% of heads of households were elderly
- 45 average age of the head of household in years

Dependency ratio

- 0.8 average youth dependency ratio
- 0.2 average elderly dependency ratio
- 1 average age-dependency ratio

% of households by current living location:

- 63% Own home
- 4% Shelter next to original home
- 4% Renting (non-displaced)
- 4% Renting (displaced)
- 13% Staying in another home that is not their own
- 12% Informal settlement
- 0% Other

2. The boundaries and names used on this map do not imply official endorsement or acceptance by REACH, UNICEF, HFI, or UNISMUH. Population data was extracted at desa-level from SIAK (Population Information Administration System) database, Ministry of Home Affairs (MoHA, 2017). Population of missing desas was imputed using data from the Indonesia Bureau of Statistics, 2010.
3. Respondent metadata provides information on the respondents interviewed for the questionnaire. While the respondent was usually the head of household, if the head of household was not present at the time of interview, a member of the household knowledgeable about household affairs responded instead. This section only shows information on respondents, not the heads of household. Results in this section are not weighted by population, and should be considered as indicative.
4. Age-dependency ratio was calculated by dividing the number of under-age and elderly (non-productive) individuals (0–17 years for youth and 60+ years for elderly) by the number of adult (productive) individuals in the population (18–59 years). Anything below 1 shows that the population is mostly adults of working-age who can provide for those who are not.
5. Households were categorised based on whether they were still living on their original land, or if they were displaced by the disaster. Those living in their original home, renting (in the same location both before and after the disaster) or living in a tent/makeshift shelter next to their
Displaced population

- **33%** of households were no longer living in their original house due to the disaster.
- % of households no longer living on land they own by distance from their current living location to their original house:
  - 32% Nearby/on site
  - 19% Within 2km
  - 22% Between 2km–5km
  - 27% More than 5km or Don’t know

Non-displaced population

- **8%** of non-displaced households were hosting at least one displaced household in a house that they own.

Disabilities, Elderly, Minorities

- **7%** of households contained at least one member with a self-reported physical or mental disability.

Child Protection

- **8%** of households contained at least one child that was separated from their usual caregiver.

Psychosocial Support

- **61%** of households reported having at least one member experiencing emotional distress from the disaster.

Shelter

- **78%** of households reported that their original shelter was either destroyed or damaged by the disaster.

- % of households by state of tenure for house at the time of data collection:
  - 8% Household owns the land
  - 12% Written agreement (still valid)
  - 1% Written agreement (expired)
  - 78% Verbal/No agreement
  - 1% Don’t know

Preferred Shelter Assistance

- **70%** of households reported that they would prefer to rebuild or repair their original home in the next 6 months.

Displacement and Protection

- **33%** of households were no longer living in their original house due to the disaster.
- % of households no longer living on land they own by distance from their current living location to their original house:
  - Nearby/on site
  - Within 2km
  - Between 2km–5km
  - More than 5km or Don’t know

Non-displaced population

- **8%** of non-displaced households were hosting at least one displaced household in a house that they own.

Movement intentions in the next 6 months

- % of households by where they most want to move to within the next six months:
  - Remain in the current location: 82%
  - Don’t know: 5%
  - Move to a new location: 4%

Top 3 most reported reasons as to why households chose to move or to stay in their preferred living location for the next 6 months:

1. House destroyed/severely damaged: 64%
2. Mild damage to house: 29%
3. Fear that land is still unsafe: 24%

Protection of Women’s Needs

- **25%** of households contained at least one pregnant or lactating woman.

Disability, Elderly, Minorities

- **7%** of households contained at least one member with a self-reported physical or mental disability.

Child Protection

- **8%** of households contained at least one child that was separated from their usual caregiver.

Psychosocial Support

- **61%** of households reported having at least one member experiencing emotional distress from the disaster.

Shelter

- **78%** of households reported that their original shelter was either destroyed or damaged by the disaster.

- % of households by state of tenure for house at the time of data collection:
  - Household owns the land: 8%
  - Written agreement (still valid): 12%
  - Written agreement (expired): 1%
  - Verbal/No agreement: 78%
  - Don’t know: 1%

Preferred Shelter Assistance

- **70%** of households reported that they would prefer to rebuild or repair their original home in the next 6 months.

Disability, Elderly, Minorities

- **7%** of households contained at least one member with a self-reported physical or mental disability.

Child Protection

- **8%** of households contained at least one child that was separated from their usual caregiver.

Psychosocial Support

- **61%** of households reported having at least one member experiencing emotional distress from the disaster.

Shelter

- **78%** of households reported that their original shelter was either destroyed or damaged by the disaster.

- % of households by state of tenure for house at the time of data collection:
  - Household owns the land: 8%
  - Written agreement (still valid): 12%
  - Written agreement (expired): 1%
  - Verbal/No agreement: 78%
  - Don’t know: 1%

Preferred Shelter Assistance

- **70%** of households reported that they would prefer to rebuild or repair their original home in the next 6 months.
Top 3 preferred types of assistance that households wanted to receive in order to rebuild/repair their homes in the 6 months after data collection:10

1. Assistance to build/repair shelter 62%
2. Shelter building materials 32%
3. Provide water to shelter 15%

Top 3 most needed Non-Food Items (NFIs):10

1. Cooking utensils/kitchen set; 64%
2. Bedding items (bedsheets, pillows); 42%
3. Cooking fuel 19%

Water, Sanitation and Hygiene

Access to Water

% of households acquired most of their drinking water from the following sources:

- 31% Piped water
- 21% Public tap
- 5% Protected well/spring
- 6% Water tank/trucking
- 35% Bottled water
- 2% Unprotected source
- 0% Don’t know

- 88% of households reported drinking water that had been treated and was safe to drink
- 81% of households reported having enough water to meet their total needs for drinking, cooking, bathing, and washing

% of households by reported amount of time it takes to walk to main water source, fetch water, and return (including queuing at the water source):

- 78% Water source located on site
- 12% Less than 10 minutes
- 8% 10–20 minutes
- 2% More than 20 minutes
- 0% Don’t know

Hygiene practices

% of households by location used for hand washing:

- 52% Pouring device/sink faucet
- 36% Basin/bucket
- 12% No device
- 0% Don’t know

- 88% of households have water available for hand washing
- 55% of households have soap available for hand washing

Sanitation conditions

% of households by most common defecation practice:

- 74% Household latrine/toilet
- 21% Communal latrine/toilet
- 3% Open defecation
- 2% Don’t know

There is an average of 16 households reported to be sharing each communal latrine

Household and communal latrine conditions

- 77% of households with communal latrines reported their toilet had adequate lighting
- 7% of households with communal toilets reported that there are separate toilets for men and women
- 78% of households with communal toilets reported their toilet is not inside the household and has locks on the doors

Economy

Occupation and employment

Main occupation of the household reported by households before the disaster and in the last month:12

<table>
<thead>
<tr>
<th>Before Disaster</th>
<th>January 2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>22% Small business owner</td>
<td>1 Small business owner 23%</td>
</tr>
<tr>
<td>15% Service industry</td>
<td>2 Service industry 12%</td>
</tr>
<tr>
<td>11% Teacher, lawyer, engineer</td>
<td>3 Teacher, lawyer, engineer 10%</td>
</tr>
</tbody>
</table>

10. Respondents could select up to three responses; therefore results may exceed 100%; only the top three choices are shown.
11. Average taken from households reporting the use of communal latrines.
12. Single-choice question; only the top three responses are shown.
Among households where children were not attending school, there was an average of 1 child(ren) reported to not be attending school.

Top 3 reported reasons why school-aged children were not attending school by households with children not attending school:

1. School damaged/destroyed 62%
2. Fear of school collapsing 50%
3. Child not attending school before disaster 12%

Condition of school facilities

% of households reported the condition of the nearby school to be:

- Good condition: 11%
- Lightly damaged: 9%
- Moderately damaged: 41%
- Severe damage: 16%
- Don’t know: 15%
- Other: 8%

Food Security

Reported Food Consumption Score (FCS) and reduced Coping Strategy Index (rCSI)

Food Consumption Score: 92% Acceptable, 8% Borderline, 0% Poor
Average rCSI score: 5.2

Health

Immunization

38% of households reported having children in the household that were not immunized for measles, mumps, and rubella (MMR).

Illness and injury

48% of households reported that a member of the household had suffered from a health issue (illness or injury) in the 30 days prior to data collection.

Education

Student attendance

5% of households with children reported having school-aged children who were not attending school following the disaster.
Multi-Sector Needs Assessment
Central Sulawesi Province
Palu City, Mantikulore Sub-District
INDONESIA
February 2019

Top 3 types of health concerns reported by households with a member who had suffered from health issues in the 30 days prior to data collection: 18

1. Coughing 56%
2. Fever 51%
3. Diarrheal diseases 22%

Main barriers to accessing healthcare reported by households who had needed to access medical treatment the 30 days prior to data collection: 19

No issues 87%
No information where health facilities are 5%
Don’t know 3%

Main reasons (if any) that households have had to access health services in the 30 days prior to data collection: 20

1. None 44%
2. Treat health problems 35%
3. Get regular medications 17%

1.2.3 Priority Needs

Top 3 most important priority needs as reported by households: 20

1. Food 62%
2. Shelter support 35%
3. Kitchen ware 32%

% of households by most preferred source from which they would like to receive new information: 19

Face-to-face communication (e.g. from friends) 81%
Television 6%
Telephone/mobile phone (Voice Call) 5%

Humanitarian assistance

34% of households reported that they had received humanitarian aid in the 30 days prior to data collection

Top 3 most common types of aid that households reported having received: 18

1. Food 98%
2. Tents 20%
3. Health 20%

% of households by most common reported source of aid: 18

Government distribution 41%
Friends and family 23%
NGO distribution 16%

57% of households reported that they were happy with the aid that they had received in the 30 days prior to data collection

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19. Single-choice question; only the top three responses are shown.
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Background and methodology

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Demographics

Household composition by gender and age

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<th>18–59 years</th>
<th>13–17 years</th>
<th>6–12 years</th>
<th>1–5 years</th>
<th>&lt;1 year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>2%</td>
<td>30%</td>
<td>8%</td>
<td>9%</td>
<td>4%</td>
<td>1%</td>
</tr>
<tr>
<td>Female</td>
<td>3%</td>
<td>25%</td>
<td>6%</td>
<td>7%</td>
<td>3%</td>
<td>1%</td>
</tr>
</tbody>
</table>

There was an average of 6 individuals reported per household.

Head of Household

14% of heads of households were female
12% of heads of households were elderly
47 average age of the head of household in years

Dependency ratio

0.9 average youth dependency ratio
0.1 average elderly dependency ratio
1 average age-dependency ratio

% of households by current living location:

55% Own home
0% Shelter next to original home
9% Renting (non-displaced)
7% Renting (displaced)
11% Staying in another home that is not their own
18% Informal settlement
0% Other

2. The boundaries and names used on this map do not imply official endorsement or acceptance by REACH, UNICEF, HFI, or UNISMUH. Population data was extracted at desa-level from SIAK (Population Information Administration System) database, Ministry of Home Affairs (MoHA, 2017). Population of missing desas was imputed using data from the Indonesia Bureau of Statistics, 2010.
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5. Households were categorised based on whether they were still living on their original land, or if they were displaced by the disaster. Those living in their original home, renting (in the same location both before and after the disaster) or living in a tent/makeshift shelter next to their
Displaced population

- 36% of households were no longer living in their original house due to the disaster.

% of households no longer living on land they own by distance from their current living location to their original house:

- 27% Nearby/on site
- 39% Within 2km
- 27% Between 2km–5km
- 7% More than 5km or Don’t know

Non-displaced population

- 11% of non-displaced households were hosting at least one displaced household in a house that they own.

There is an average of 3 IDP individuals in each displaced household hosted by a non-displaced household.

- 0.7 average dependency ratio of displaced household size to hosting household size for non-displaced households hosting IDPs.

Movement intentions in the next 6 months

- 77% of households by where they most want to move to within the next six months:
  - Remain in the current location
  - Don’t know
  - Move into the Government Transitional Shelter

Top 3 most reported reasons as to why households chose to move or to stay in their preferred living location for the next 6 months:

1. House destroyed/severely damaged
2. Fear that land is still unsafe
3. Land is lost to natural disaster

Disabilities, Elderly, Minorities

- 3% of households contained at least one member with a self-reported physical or mental disability.

Child Protection

- 3% of households contained at least one child that was separated from their usual caregiver.

Psychosocial Support

- 56% of households reported having at least one member experiencing emotional distress from the disaster.

Shelter

- 65% of households by type of shelter they are currently living in at the time of data collection:
  - House
  - Apartment
  - Transitional shelter (individual)
  - Makeshift Shelter
  - Tent
  - Don’t know
  - Other

- 70% of households reported that their original shelter was either destroyed or damaged by the disaster.

- 77% of households no longer living on land they own by distance from their current living location to their original house:
  - 27% Nearby/on site
  - 39% Within 2km
  - 27% Between 2km–5km
  - 7% More than 5km or Don’t know

Preferred Shelter Assistance

- 66% of households reported that they would prefer to rebuild or repair their original home in the next 6 months.

Protection of Women’s Needs

- 12% of households contained at least one pregnant or lactating woman.

original home were living on their original land and considered to be non-displaced. Those living with friends or family, in an informal settlement, or renting after they were displaced from their homes were no longer living on their original land and had been displaced by the disaster. For households living in their original home, categorization of displacement was the same, except that those staying in tents next to their original home were considered to be displaced.

Dependency ratio is calculated by dividing the number of IDP individuals being hosted by the total size of the host household. The number shows the relative burden that hosting households have to support IDP households.

Single-choice question; only the top three responses are shown.

Respondents could select multiple responses; therefore results may exceed 100%; only the top three choices are shown.

In many households in Central Sulawesi, there is a cultural practice in which one household owns many plots of land, and other households are permitted to live on it without any formal agreement.
Top 3 preferred types of assistance that households wanted to receive in order to rebuild/repair their homes in the 6 months after data collection:10

1. Assistance to build/repair shelter 52%
2. Shelter building materials 50%
3. Provide water to shelter 24%

Top 3 most needed Non-Food Items (NFIs):10

1. Cooking utensils/kitchen set; 68%
2. Bedding items (bedsheets, pillows); 47%
3. Mattresses/Sleeping mats 28%

Water, Sanitation and Hygiene

Access to Water
% of households acquired most of their drinking water from the following sources:

- Piped water 14%
- Public tap 29%
- Protected well/spring 1%
- Water tank/trucking 8%
- Bottled water 47%
- Unprotected source 0%
- Don’t know 1%

96% of households reported drinking water that had been treated and was safe to drink
87% of households reported having enough water to meet their total needs for drinking, cooking, bathing, and washing

Hygiene practices
% of households by location used for hand washing:

- Pouring device/sink faucet 77%
- Basin/bucket 17%
- No device 6%
- Don’t know 0%

92% of households have water available for hand washing
85% of households have soap available for hand washing

Sanitation conditions
% of households by most common defecation practice:

- Household latrine/toilet 79%
- Communal latrine/toilet 18%
- Open defecation 2%
- Don’t know 1%

There is an average of 45 households reported to be sharing each communal latrine11

Household and communal latrine conditions

- 74% of households with communal latrines reported their toilet had adequate lighting
- 6% of households with communal toilets reported that there are separate toilets for men and women
- 68% of households with communal toilets reported their toilet is not inside the household and has locks on the doors

Economy

Occupation and employment
Main occupation of the household reported by households before the disaster and in the last month:12

Before Disaster | January 2019
---|---
54% Small business owner | 1 Small business owner 55%
10% Vocational profession | 2 Unemployed 15%
7% Unemployed | 3 Vocational profession 8%

10. Respondents could select up to three responses; therefore results may exceed 100%; only the top three choices are shown.
11. Average taken from households reporting the use of communal latrines.
12. Single-choice question; only the top three responses are shown.
Among households where children were not attending school, there was an average of 1 child(ren) reported to not be attending school. The top 3 reported reasons why school-aged children were not attending school by households with children not attending school:

1. School damaged/destroyed 75%
2. Child not attending school before disaster 12%
3. Route to school is too dangerous 0%

Condition of school facilities

% of households reported the condition of the nearby school to be the following:
- Good condition: 15%
- Lightly damaged: 28%
- Moderately damaged: 23%
- Severe damage: 25%
- Don't know: 8%
- Other: 1%

Food Security

Reported Food Consumption Score (FCS) and reduced Coping Strategy Index (rCSI)

Food Consumption Score: 96% Acceptable
4% Borderline
0% Poor

average rCSI score

4.6

% of households per main reported source of food in week prior to data collection:
- Purchased with own cash: 86%
- Food assistance (government): 4%
- Food assistance (charity, private company): 4%

Health

Immunization

15% of households reported having children in the household that were not immunized for measles, mumps, and rubella (MMR).

Illness and injury

41% of households reported that a member of the household had suffered from a health issue (illness or injury) in the 30 days prior to data collection.

Education

Student attendance

8% of households with children reported having school-aged children who were not attending school following the disaster.

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13. Due to the sensitivity over asking about monthly income, respondents were asked what range their monthly income fell within. The upper bound of the range was used, and current income was divided by previous income before being averaged.
14. 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).
15. rCSI is a measure of food security that looks at a set list of five coping strategies that households might be using to make food last longer in the absence of sufficient foods. It uses 5 commonly practiced coping strategies across the world. rCSI was calculated by asking respondents how many days per week their household adopted different coping strategies to make food last longer. The number of days was then multiplied by a coefficient based on the coping strategy and 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 scores greater than or equal to 10 are concerning (WFP VAM Unit, Afghanistan, Guidance note: calculation of household food security outcome indicators, December 2012).
16. Single-choice question; only the top three responses are shown.
17. Respondents could select multiple responses; only the top three choices are shown.
Top 3 types of health concerns reported by households with a member who had suffered from health issues in the 30 days prior to data collection: 18

1. Fever 60%
2. Coughing 53%
3. Diarrheal diseases 32%

Main barriers to accessing healthcare reported by households who had needed to access medical treatment the 30 days prior to data collection: 19

No issues 83%
Cost of medicine/treatment too high 8%
Don’t know 4%

Main reasons (if any) that households have had to access health services in the 30 days prior to data collection: 20

1. None 41%
2. Treat health problems 36%
3. Get regular medications 25%

Top 3 most important priority needs as reported by households: 20

1. Food 81%
2. Kitchen ware 47%
3. Water 29%

1.2.3 Priority Needs

% of households by most preferred source from which they would like to receive new information: 19

Face-to-face communication (e.g. from friends) 62%
Television 21%
Social media 12%

Humanitarian assistance

21% of households reported that they had received humanitarian aid in the 30 days prior to data collection

Top 3 most common types of aid that households reported having received: 18

1. Food 92%
2. Water 21%
3. Tents 12%

% of households by most common reported source of aid: 18

Government distribution 62%
NGO distribution 25%
Friends and family 8%

71% of households reported that they were happy with the aid that they had received in the 30 days prior to data collection

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A sample of 98 out of a total population of 253,926 households were surveyed across the four affected regencies between 22 January and 6 February 2019. Results were weighted by population and generalizable to the crisis level with 95% confidence level and 10% margin of error.

Demographics

Household composition by gender and age

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<tr>
<td>Male</td>
<td>3%</td>
<td>32%</td>
<td>7%</td>
<td>8%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Female</td>
<td>4%</td>
<td>29%</td>
<td>6%</td>
<td>4%</td>
<td>1%</td>
<td>1%</td>
</tr>
</tbody>
</table>

Male

- 3% 60+ years
- 32% 18–59 years
- 7% 6–12 years
- 4% 1–5 years

Female

- 4% 60+ years
- 29% 18–59 years
- 6% 6–12 years
- 1% <1 year

There was an average of 5 individuals reported per household

Head of Household

- 8% of heads of households were female
- 9% of heads of households were elderly
- 47 average age of the head of household in years

Dependency ratio

- 0.6 average youth dependency ratio
- 0.2 average elderly dependency ratio
- 0.8 average age-dependency ratio

% of households by current living location:

- 71% Own home
- 3% Shelter next to original home
- 3% Renting (non-displaced)
- 4% Renting (displaced)
- 10% Staying in another home that is not their own
- 9% Informal settlement
- 0% Other

2. The boundaries and names used on this map do not imply official endorsement or acceptance by REACH, UNICEF, HFI, or UNISMUH. Population data was extracted at desa-level from SIAK (Population Information Administration System) database, Ministry of Home Affairs (MoHA, 2017). Population of missing desas was imputed using data from the Indonesia Bureau of Statistics, 2010.
3. Respondent metadata provides information on the respondents interviewed for the questionnaire. While the respondent was usually the head of household, if the head of household was not present at the time of interview, a member of the household knowledgeable about household affairs responded instead. This section only shows information on respondents, not the heads of household. Results in this section are not weighted by population, and should be considered as indicative.
4. Age-dependency ratio was calculated by dividing the number of under-age and elderly (non-productive) individuals (0–17 years for youth and 60+ years for elderly) by the number of adult (productive) individuals in the population (18–59 years). Anything below 1 shows that the population is mostly adults of working-age who can provide for those who are not.
5. Households were categorised based on whether they were still living on their original land, or if they were displaced by the disaster. Those living in their original home, renting (in the same location both before and after the disaster) or living in a tent/makeshift shelter next to their home.
Displaced population

- 26% of households were no longer living in their original house due to the disaster

% of households no longer living on land they own by distance from their current living location to their original house:

- 32% Nearby/on site
- 18% Within 2km
- 18% Between 2km–5km
- 32% More than 5km or Don’t know

Non-displaced population

- 7% of non-displaced households were hosting at least one displaced household in a house that they own

There is an average of 2 IDP individuals in each displaced household hosted by a non-displaced household

- 0.4 average dependency ratio of displaced household size to hosting household size for non-displaced households hosting IDPs

Movement intentions in the next 6 months

% of households by where they most want to move to within the next six months:

- 89% Remain in the current location
- 4% Move to a new location
- 3% Return back to original home

Top 3 most reported reasons as to why households chose to move or to stay in their preferred living location for the next 6 months:

1. Heavy damage to house 56%
2. House destroyed/severely damaged 50%
3. Basic services are not available 33%

Disabilities, Elderly, Minorities

- 3% of households contained at least one member with a self-reported physical or mental disability

Child Protection

- 3% of households contained at least one child that was separated from their usual caregiver

Psychosocial Support

- 43% of households reported having at least one member experiencing emotional distress from the disaster

Shelter

Shelter conditions

% of households by type of shelter they are currently living in at the time of data collection:

- 80% House
- 7% Apartment
- 3% Transitional shelter (individual)
- 4% Makeshift Shelter
- 5% Tent
- 0% Don’t know
- 1% Other

- 56% of households reported that their original shelter was either destroyed or damaged by the disaster

% of households by state of tenure for house at the time of data collection:

- 16% Household owns the land
- 6% Written agreement (still valid)
- 0% Written agreement (expired)
- 78% Verbal/No agreement
- 0% Don’t know

Preferred Shelter Assistance

- 62% of households reported that they would prefer to rebuild or repair their original home in the next 6 months

Protection of Women’s Needs

- 6% of households contained at least one pregnant or lactating woman

Original home were living on their original land and considered to be non-displaced. Those living with friends or family, in an informal settlement, or renting after they were displaced from their homes were no longer living on their original land and had been displaced by the disaster. For households living in their original home, categorization of displacement was the same, except that those staying in tents next to their original home were considered to be displaced.

Dependency ratio is calculated by dividing the number of IDP individuals being hosted by the total size of the host household. The number shows the relative burden that hosting households have to support IDP household.

Single-choice question; only the top three responses are shown.

Respondents could select multiple responses; therefore results may exceed 100%; only the top three choices are shown.

In many households in Central Sulawesi, there is a cultural practice in which one household owns many plots of land, and other households are permitted to live on it without any formal agreement.
Top 3 preferred types of assistance that households wanted to receive in order to rebuild/repair their homes in the 6 months after data collection:10

1. Assistance to build/repair shelter 55%
2. Shelter building materials 24%
3. None 18%

Top 3 most needed Non-Food Items (NFIs):10

1. Bedding items (bedsheets, pillows); 47%
2. Cooking utensils/kitchen set; 44%
3. Mattresses/Sleeping mats 32%

Hygiene practices

% of households by location used for hand washing:

- 81% Pouring device/sink faucet
- 15% Basin/bucket
- 4% No device
- 0% Don’t know

92% of households have water available for hand washing
53% of households have soap available for hand washing

Sanitation conditions

% of households by most common defecation practice:

- 88% Household latrine/toilet
- 12% Communal latrine/toilet
- 0% Open defecation
- 0% Don’t know

There is an average of 8 households reported to be sharing each communal latrine11

Household and communal latrine conditions

- 96% of households with communal latrines reported their toilet had adequate lighting
- 7% of households with communal toilets reported that there are separate toilets for men and women
- 81% of households with communal toilets reported their toilet is not inside the household and has locks on the doors

Water, Sanitation and Hygiene

Access to Water

% of households acquired most of their drinking water from the following sources:

- 14% Piped water
- 34% Public tap
- 16% Protected well/spring
- 0% Water tank/trucking
- 35% Bottled water
- 0% Unprotected source
- 1% Don’t know

98% of households reported drinking water that had been treated and was safe to drink
88% of households reported having enough water to meet their total needs for drinking, cooking, bathing, and washing

% of households by reported amount of time it takes to walk to main water source, fetch water, and return (including queuing at the water source):

- 96% Water source located on site
- 4% Less than 10 minutes
- 0% 10–20 minutes
- 0% More than 20 minutes
- 0% Don’t know

Population

Occupation and employment

Main occupation of the household reported by households before the disaster and in the last month:12

Before Disaster

1. Small business owner 30%
2. Government job 21%
3. Service industry 14%

January 2019

1. Small business owner 28%
2. Government job 20%
3. Vocational profession 11%

10. Respondents could select up to three responses; therefore results may exceed 100%; only the top three choices are shown.
11. Average taken from households reporting the use of communal latrines.
12. Single-choice question; only the top three responses are shown.
% of households reporting that the household main income was unemployment, before and after the disaster:

<table>
<thead>
<tr>
<th>Before Disaster</th>
<th>January 2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>4% are unemployed</td>
<td>9%</td>
</tr>
</tbody>
</table>

Among households where children were not attending school, there was an average of 0 child(ren) reported to not be attending school. Top 3 reported reasons why school-aged children were not attending school by households with children not attending school:

1. School damaged/destroyed 100%
2. Other 0%
3. Child not attending school before disaster 0%

Condition of school facilities

% of households reported the condition of the nearby school to be the following:

- Good condition 19%
- Lightly damaged 29%
- Moderately damaged 22%
- Severe damage 15%
- Don’t know 15%
- Don’t know 0%
- Other 0%

Main reported barriers to finding work:

- The recent disaster destroyed previous business/job opportunities 62%
- Only dangerous or low-paid jobs are available 6%
- Available jobs are too far away 6%

There is an average reported loss of 10% of household income due to the disaster.13

Food Security

Reported Food Consumption Score (FCS) and reduced Coping Strategy Index (rCSI)

- Food Consumption Score 14: Acceptable 93%
- rCSI score 15: 5.9
- Borderline 7%
- Poor 0%

% of households per main reported source of food in week prior to data collection:18

- Purchased with own cash 97%
- Purchased with cash assistance 1%
- Food assistance (government) 1%

Health

Immunization

22% of households reported having children in the household that were not immunized for measles, mumps, and rubella (MMR).

Illness and injury

24% of households reported that a member of the household had suffered from a health issue (illness or injury) in the 30 days prior to data collection.

13. Due to the sensitivity over asking about monthly income, respondents were asked what range their monthly income fell within. The upper bound of the range was used, and current income was divided by previous income before being averaged.
14. 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 VAM Unit, Afghanistan, Guidance note: calculation of household food security outcome indicators, December 2012).
15. rCSI is a measure of food security that looks at a set list of five coping strategies that households might be using to make food last longer in the absence of sufficient foods. It uses 5 commonly practiced coping strategies across the world. rCSI was calculated by asking respondents how many days per week their household adopted different coping strategies to make food last longer. The number of days was then multiplied by a coefficient based on the coping strategy and 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 scores greater than or equal to 10 are concerning (WFP VAM Unit, Afghanistan, Guidance note: calculation of household food security outcome indicators, December 2012).
16. Single-choice question; only the top three responses are shown.
17. Respondents could select multiple responses; only the top three choices are shown.
Top 3 types of health concerns reported by households with a member who had suffered from health issues in the 30 days prior to data collection: 18

1. Diarrheal diseases 44%
2. Fever 44%
3. Coughing 39%

Main barriers to accessing healthcare reported by households who had needed to access medical treatment the 30 days prior to data collection: 19

- No issues 61%
- Don’t know 9%
- Patient cannot physically access treatment 9%

Main reasons (if any) that households have had to access health services in the 30 days prior to data collection: 20

1. None 56%
2. Get regular medications 36%
3. Treat health problems 31%

1.2.3 Priority Needs

Top 3 most important priority needs as reported by households: 20

1. Food 82%
2. Shelter support 37%
3. Kitchen ware 33%

% of households by most preferred source from which they would like to receive new information: 19

- Face-to-face communication (e.g. from friends) 50%
- Television 35%
- Social media 10%

Humanitarian assistance of households reported that they had received humanitarian aid in the 30 days prior to data collection

10%

Top 3 most common types of aid that households reported having received: 18

1. Food 90%
2. Water 30%
3. Cash 30%

% of households by most common reported source of aid: 18

- Government distribution 90%
- Friends and family 10%
- Other 0%

80% of households reported that they were happy with the aid that they had received in the 30 days prior to data collection

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19. Single-choice question; only the top three responses are shown.
20. Respondents could select up to three responses, therefore results may exceed 100%; only the top three choices are shown.
Background and methodology

Following a 7.7 magnitude earthquake on 28 September, 2018, large parts of Palu, Donggala, Sigi, and Parigi Moutong regencies in Central Sulawesi province were destroyed by earthquake, tsunami, and liquefaction events. As of 10 December 2018, approximately 2,101 people have been killed, 1,373 are missing, and an estimated 133,631 individuals were displaced in informal settlements. An estimated 15,000 houses have been destroyed and another 17,000 heavily damaged. However, four months after the initial disaster, there is still very little understanding of the needs and vulnerabilities of the affected population in Central Sulawesi Province.

To fill this gap, a Multi-Sector Needs Assessment (MSNA) was conducted by Humanitarian Forum Indonesia (HFI) and Universitas Muhammadiyah Palu (UNISMUH) with oversight from the Ministry of Social Affairs (Kemensos) and technical support from REACH, in 38 of 62 sub-districts in the four affected regencies of Central Sulawesi Province.

A sample of 111 out of a total population of 253,926 households were surveyed across the four affected regencies between 22 January and 6 February 2019. Results were weighted by population and generalizable to the crisis level with 95% confidence level and 10% margin of error.

Demographics

Household composition by gender and age

- Male:
  - 60+ years: 3%
  - 18–59 years: 31%
  - 13–17 years: 5%
  - 6–12 years: 4%
  - 1–5 years: 4%
  - <1 year: 2%

- Female:
  - 60+ years: 5%
  - 18–59 years: 31%
  - 13–17 years: 5%
  - 6–12 years: 4%
  - 1–5 years: 4%
  - <1 year: 1%

There was an average of 5 individuals reported per household.

Head of Household

- 24% of heads of households were female.
- 21% of heads of households were elderly.
- 48 average age of the head of household in years.

Dependency ratio

- 0.6 average youth dependency ratio.
- 0.2 average elderly dependency ratio.
- 0.8 average age-dependency ratio.

% of households by current living location:

- 65% Own home.
- 0% Shelter next to original home.
- 19% Renting (non-displaced).
- 8% Renting (displaced).
- 8% Staying in another home that is not their own.
- 0% Informal settlement.
- 0% Other.

Respondent metadata

- Total households interviewed: 111
- Average age of respondent in years: 45
- 74% of respondents were female.

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3. Respondent metadata provides information on the respondents interviewed for the questionnaire. While the respondent was usually the head of household, if the head of household was not present at the time of interview, a member of the household knowledgeable about household affairs responded instead. This section only shows information on respondents, not the heads of household. Results in this section are not weighted by population, and should be considered as indicative.
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5. Households were categorised based on whether they were still living on their original land, or if they were displaced by the disaster. Those living in their original home, renting (in the same location both before and after the disaster) or living in a tent/makeshift shelter next to their
Displaced population

16% of households were no longer living in their original house due to the disaster

% of households no longer living on land they own by distance from their current living location to their original house:

- 55% Nearby/on site
- 0% Within 2km
- 0% Between 2km–5km
- 45% More than 5km or Don’t know

Non-displaced population

3% of non-displaced households were hosting at least one displaced household in a house that they own

There is an average of 3 IDP individuals in each displaced household hosted by a non-displaced household

0.5 average dependency ratio of displaced household size to hosting household size for non-displaced households hosting IDPs

Movement intentions in the next 6 months

% of households by where they most want to move to within the next six months:

- 92% Remain in the current location
- 4% Don’t know
- 1% Move to a new location

Top 3 most reported reasons as to why households chose to move or to stay in their preferred living location for the next 6 months:

1. Mild damage to house 75%
2. Fear that land is still unsafe 50%
3. Area may be declared a no build (red) zone 50%

Disabilities, Elderly, Minorities

2% of households contained at least one member with a self-reported physical or mental disability

Child Protection

8% of households contained at least one child that was separated from their usual caregiver

Psychosocial Support

40% of households reported having at least one member experiencing emotional distress from the disaster

Shelter

73% House
27% Apartment
0% Transitional shelter (individual)
0% Makeshift Shelter
0% Tent
0% Don’t know
0% Other

% of households by type of shelter they are currently living in at the time of data collection:

63% of households reported that their original shelter was either destroyed or damaged by the disaster

% of households by state of tenure for house at the time of data collection:

41% Household owns the land
5% Written agreement (still valid)
2% Written agreement (expired)
52% Verbal/no agreement
0% Don’t know

Preferred Shelter Assistance

58% of households reported that they would prefer to rebuild or repair their original home in the next 6 months

Protection of Women’s Needs

16% of households contained at least one pregnant or lactating woman

original home were living on their original land and considered to be non-displaced. Those living with friends or family, in an informal settlement, or renting after they were displaced from their homes were no longer living on their original land and had been displaced by the disaster. For households living in their original home, categorization of displacement was the same, except that those staying in tents next to their original home were considered to be displaced.

6. Dependency ratio is calculated by dividing the number of IDP individuals being hosted by the total size of the host household. The number shows the relative burden that hosting households have to support IDP households.
7. Single-choice question; only the top three responses are shown.
8. Respondents could select multiple responses; therefore results may exceed 100%; only the top three choices are shown.
9. In many households in Central Sulawesi, there is a cultural practice in which one household owns many plots of land, and other households are permitted to live on it without any formal agreement.
Top 3 preferred types of assistance that households wanted to receive in order to rebuild/repair their homes in the 6 months after data collection:

1. Assistance to build/repair shelter 39%
2. None 32%
3. Shelter building materials 24%

Top 3 most needed Non-Food Items (NFIs):

1. Bedding items (bedsheets, pillows); 33%
2. None of the above 33%
3. Cooking utensils/kitchen set; 27%

Hygiene practices

% of households by location used for hand washing:

- 84% Pouring device/sink faucet
- 15% Basin/bucket
- 1% No device
- 0% Don’t know

99% of households have water available for hand washing
76% of households have soap available for hand washing

Sanitation conditions

% of households by most common defecation practice:

- 91% Household latrine/toilet
- 9% Communal latrine/toilet
- 0% Open defecation
- 0% Don’t know

There is an average of 6 households reported to be sharing each communal latrine

Household and communal latrine conditions

78% of households with communal latrines reported their toilet had adequate lighting
2% of households with communal toilets reported that there are separate toilets for men and women
69% of households with communal toilets reported their toilet is not inside the household and has locks on the doors

Water, Sanitation and Hygiene

Access to Water

% of households acquired most of their drinking water from the following sources:

- 6% Piped water
- 19% Public tap
- 4% Protected well/spring
- 0% Water tank/trucking
- 71% Bottled water
- 0% Unprotected source
- 0% Don’t know

92% of households reported drinking water that had been treated and was safe to drink
95% of households reported having enough water to meet their total needs for drinking, cooking, bathing, and washing

% of households by reported amount of time it takes to walk to main water source, fetch water, and return (including queuing at the water source):

- 96% Water source located on site
- 2% Less than 10 minutes
- 2% 10–20 minutes
- 0% More than 20 minutes
- 0% Don’t know

Economy

Occupation and employment

Main occupation of the household reported by households before the disaster and in the last month:

**Before Disaster**

1. Small business owner 40%
2. Pension 11%
3. Teacher, lawyer, engineer 7%

**January 2019**

1. Small business owner 38%
2. Pension 12%
3. Service industry 7%

10. Respondents could select up to three responses; therefore results may exceed 100%; only the top three choices are shown.
11. Average taken from households reporting the use of communal latrines.
12. Single-choice question; only the top three responses are shown.
Among households where children were not attending school, there was an average of 1 child(ren) reported to not be attending school.

Top 3 reported reasons why school-aged children were not attending school by households with children not attending school:

1. Child not attending school before disaster - 33%
2. Household displaced; school too far - 33%
3. School fees too expensive - 0%

Condition of school facilities

% of households reported the condition of the nearby school to be:

- Good condition: 28%
- Lightly damaged: 13%
- Moderately damaged: 19%
- Severe damage: 7%
- Don’t know: 29%
- Other: 4%

Food Security

Reported Food Consumption Score (FCS) and reduced Coping Strategy Index (rCSI)

Food Consumption Score: 96% Acceptable, 4% Borderline, 0% Poor

average rCSI score = 2.1

% of households per main reported source of food in week prior to data collection:

- Purchased with own cash: 97%
- Food assistance (government): 2%
- Gift from family or friends: 1%

Health

Immunization

13% of households reported having children in the household that were not immunized for measles, mumps, and rubella (MMR).

Illness and injury

38% of households reported that a member of the household had suffered from a health issue (illness or injury) in the 30 days prior to data collection.

Education

Student attendance

3% of households with children reported having school-aged children who were not attending school following the disaster.

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13. Due to the sensitivity over asking about monthly income, respondents were asked what range their monthly income fell within. The upper bound of the range was used, and current income was divided by previous income before being averaged.
14. 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).
15. rCSI is a measure of food security that looks at a set list of five coping strategies that households might be using to make food last longer in the absence of sufficient foods. It uses 5 commonly practiced coping strategies across the world. rCSI was calculated by asking respondents how many days per week their household adopted different coping strategies to make food last longer. The number of days was then multiplied by a coefficient based on the coping strategy and 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 scores greater than or equal to 10 are concerning (WFP VAM Unit, Afghanistan, Guidance note: calculation of household food security outcome indicators, December 2012).
16. Single-choice question; only the top three responses are shown.
17. Respondents could select multiple responses; only the top three choices are shown.
### Top 3 types of health concerns reported by households with a member who had suffered from health issues in the 30 days prior to data collection:18

<table>
<thead>
<tr>
<th>Concern</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fever</td>
<td>43%</td>
</tr>
<tr>
<td>Coughing</td>
<td>38%</td>
</tr>
<tr>
<td>Other health issue</td>
<td>12%</td>
</tr>
</tbody>
</table>

### Main barriers to accessing healthcare reported by households who had needed to access medical treatment the 30 days prior to data collection:19

<table>
<thead>
<tr>
<th>Barrier</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>No issues</td>
<td>86%</td>
</tr>
<tr>
<td>Cost of medicine/treatment too high</td>
<td>7%</td>
</tr>
<tr>
<td>Don’t know</td>
<td>5%</td>
</tr>
</tbody>
</table>

### Main reasons (if any) that households have had to access health services in the 30 days prior to data collection:20

<table>
<thead>
<tr>
<th>Reason</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>50%</td>
</tr>
<tr>
<td>Get regular medications</td>
<td>43%</td>
</tr>
<tr>
<td>Treat health problems</td>
<td>11%</td>
</tr>
</tbody>
</table>

### Priority Needs

#### Top 3 most important priority needs as reported by households:20

<table>
<thead>
<tr>
<th>Need</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food</td>
<td>71%</td>
</tr>
<tr>
<td>Kitchen ware</td>
<td>21%</td>
</tr>
<tr>
<td>Other NFIs</td>
<td>20%</td>
</tr>
</tbody>
</table>

### Communication with Communities

#### Information Needs

<table>
<thead>
<tr>
<th>Type of Information</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Humanitarian assistance</td>
<td>35%</td>
</tr>
<tr>
<td>Status of housing</td>
<td>18%</td>
</tr>
<tr>
<td>Livelihoods</td>
<td>16%</td>
</tr>
</tbody>
</table>

### Humanitarian assistance

11% of households reported that they had received humanitarian aid in the 30 days prior to data collection.

#### Top 3 most common types of aid that households reported having received:18

<table>
<thead>
<tr>
<th>Type of Aid</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food</td>
<td>100%</td>
</tr>
<tr>
<td>Water</td>
<td>8%</td>
</tr>
<tr>
<td>Tents</td>
<td>8%</td>
</tr>
</tbody>
</table>

#### % of households by most common reported source of aid:18

<table>
<thead>
<tr>
<th>Source of Aid</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Government distribution</td>
<td>67%</td>
</tr>
<tr>
<td>NGO distribution</td>
<td>8%</td>
</tr>
<tr>
<td>Friends and family</td>
<td>8%</td>
</tr>
</tbody>
</table>

67% of households reported that they were happy with the aid that they had received in the 30 days prior to data collection.

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20. Respondents could select up to three responses, therefore results may exceed 100%; only the top three choices are shown.
Background and methodology

Following a 7.7 magnitude earthquake on 28 September, 2018, large parts of Palu, Donggala, Sigi, and Parigi Moutong regencies in Central Sulawesi province were destroyed by earthquake, tsunami, and liquefaction events. As of 10 December 2018, approximately 2,101 people have been killed, 1,373 are missing, and an estimated 133,631 individuals were displaced in informal settlements. An estimated 15,000 houses have been destroyed and another 17,000 heavily damaged. However, four months after the initial disaster, there is still very little understanding of the needs and vulnerabilities of the affected population in Central Sulawesi Province.

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A sample of 107 out of a total population of 253,926 households were surveyed across the four affected regencies between 22 January and 6 February 2019. Results were weighted by population and generalizable to the crisis level with 95% confidence level and 10% margin of error.

Demographics

Household composition by gender and age
- 3% 60+ years
- 29% 18–59 years
- 9% 13–17 years
- 8% 6–12 years
- 5% 1–5 years
- 1% <1 year

Male
- 29% 18–59 years
- 8% 6–12 years
- 5% 1–5 years
- 1% <1 year

Female
- 3% 60+ years
- 9% 13–17 years
- 8% 6–12 years
- 1% <1 year

There was an average of 5 individuals reported per household.

Head of Household
- 6% of heads of households were female
- 12% of heads of households were elderly
- 47 years average age of the head of household in years

Dependency ratio
- 0.8 average youth dependency ratio
- 0.1 average elderly dependency ratio
- 0.9 average age-dependency ratio

% of households by current living location
- 64% Own home
- 5% Shelter next to original home
- 5% Renting (non-displaced)
- 1% Renting (displaced)
- 9% Staying in another home that is not their own
- 16% Informal settlement
- 0% Other

Respondent metadata

- 107 Total households interviewed
- 44 Average age of respondent in years
- 36% of respondents were female
Displaced population

31% of households were no longer living in their original house due to the disaster.

% of households no longer living on land they own by distance from their current living location to their original house:
- 60% Nearby/on site
- 28% Within 2km
- 4% Between 2km–5km
- 8% More than 5km or Don’t know

Non-displaced population

9% of non-displaced households were hosting at least one displaced household in a house that they own.

There is an average of 4 IDP individuals in each displaced household hosted by a non-displaced household.

Average dependency ratio of displaced household size to hosting household size for non-displaced households hosting IDPs:

0.7

Movement intentions in the next 6 months

% of households by where they most want to move to within the next six months:
- 80% Remain in the current location
- 8% Return back to original home
- 6% Move into the Government Transitional Shelter

Top 3 most reported reasons as to why households chose to move or to stay in their preferred living location for the next 6 months:

1. House destroyed/severely damaged
2. Heavy damage to house
3. Mild damage to house

Disabilities, Elderly, Minorities

4% of households contained at least one member with a self-reported physical or mental disability.

Child Protection

5% of households contained at least one child that was separated from their usual caregiver.

Psychosocial Support

34% of households reported having at least one member experiencing emotional distress from the disaster.

Shelter

% of households by type of shelter they are currently living in at the time of data collection:
- 71% House
- 6% Apartment
- 8% Transitional shelter (individual)
- 3% Makeshift Shelter
- 12% Tent
- 0% Don’t know
- 0% Other

61% of households reported that their original shelter was either destroyed or damaged by the disaster.

% of households by state of tenure for house at the time of data collection:
- 18% Household owns the land
- 4% Written agreement (still valid)
- 1% Written agreement (expired)
- 77% Verbal/No agreement
- 0% Don’t know
- 0% Other

Preferred Shelter Assistance

65% of households reported that they would prefer to rebuild or repair their original home in the next 6 months.

Protection of Women’s Needs

9% of households contained at least one pregnant or lactating woman.

Displacement and Protection

Displaced population

31% of households were no longer living in their original house due to the disaster.

% of households no longer living on land they own by distance from their current living location to their original house:
- 60% Nearby/on site
- 28% Within 2km
- 4% Between 2km–5km
- 8% More than 5km or Don’t know

Non-displaced population

9% of non-displaced households were hosting at least one displaced household in a house that they own.

There is an average of 4 IDP individuals in each displaced household hosted by a non-displaced household.

Average dependency ratio of displaced household size to hosting household size for non-displaced households hosting IDPs:

0.7

Movement intentions in the next 6 months

% of households by where they most want to move to within the next six months:
- 80% Remain in the current location
- 8% Return back to original home
- 6% Move into the Government Transitional Shelter

Top 3 most reported reasons as to why households chose to move or to stay in their preferred living location for the next 6 months:

1. House destroyed/severely damaged
2. Heavy damage to house
3. Mild damage to house

Disabilities, Elderly, Minorities

4% of households contained at least one member with a self-reported physical or mental disability.

Child Protection

5% of households contained at least one child that was separated from their usual caregiver.

Psychosocial Support

34% of households reported having at least one member experiencing emotional distress from the disaster.

Shelter

% of households by type of shelter they are currently living in at the time of data collection:
- 71% House
- 6% Apartment
- 8% Transitional shelter (individual)
- 3% Makeshift Shelter
- 12% Tent
- 0% Don’t know
- 0% Other

61% of households reported that their original shelter was either destroyed or damaged by the disaster.

% of households by state of tenure for house at the time of data collection:
- 18% Household owns the land
- 4% Written agreement (still valid)
- 1% Written agreement (expired)
- 77% Verbal/No agreement
- 0% Don’t know
- 0% Other

Preferred Shelter Assistance

65% of households reported that they would prefer to rebuild or repair their original home in the next 6 months.

Protection of Women’s Needs

9% of households contained at least one pregnant or lactating woman.

original home were living on their original land and considered to be non-displaced. Those living with friends or family, in an informal settlement, or renting after they were displaced from their homes were no longer living on their original land and had been displaced by the disaster. For households living in their original home, categorization of displacement was the same, except that those staying in tents next to their original home were considered to be displaced.
Top 3 preferred types of assistance that households wanted to receive in order to rebuild/repair their homes in the 6 months after data collection:*10
1. Assistance to build/repair shelter 53%
2. Shelter building materials 36%
3. Provide water to shelter 22%

Top 3 most needed Non-Food Items (NFIs):*10
1. Cooking utensils/kitchen set; 65%
2. Bedding items (bedsheets, pillows); 60%
3. Mattresses/Sleeping mats 36%

Hygiene practices
% of households by location used for hand washing:
- 59% Pouring device/sink faucet
- 28% Basin/bucket
- 13% No device
- 0% Don’t know

77% of households have water available for hand washing
68% of households have soap available for hand washing

Sanitation conditions
% of households by most common defecation practice:
- 79% Household latrine/toilet
- 19% Communal latrine/toilet
- 2% Open defecation
- 0% Don’t know

There is an average of 4 households reported to be sharing each communal latrine*11

Household and communal latrine conditions
89% of households with communal latrines reported their toilet had adequate lighting
8% of households with communal toilets reported that there are separate toilets for men and women
73% of households with communal toilets reported their toilet is not inside the household and has locks on the doors

Water, Sanitation and Hygiene
Access to Water
% of households acquired most of their drinking water from the following sources:
- 25% Piped water
- 25% Public tap
- 17% Protected well/spring
- 8% Water tank/trucking
- 24% Bottled water
- 1% Unprotected source
- 0% Don’t know

91% of households reported drinking water that had been treated and was safe to drink
87% of households reported having enough water to meet their total needs for drinking, cooking, bathing, and washing

% of households by reported amount of time it takes to walk to main water source, fetch water, and return (including queuing at the water source):
- 76% Water source located on site
- 17% Less than 10 minutes
- 6% 10–20 minutes
- 0% More than 20 minutes
- 1% Don’t know

Economy
Occupation and employment
Main occupation of the household reported by households before the disaster and in the last month:*12

Before Disaster | January 2019
---|---
29% Service industry | 1. Service industry 27%
22% Small business owner | 2. Small business owner 22%
9% Unemployed | 3. Unemployed 14%

10. Respondents could select up to three responses; therefore results may exceed 100%; only the top three choices are shown.
11. Average taken from households reporting the use of communal latrines.
12. Single-choice question; only the top three responses are shown.
Among households where children were not attending school, there was an average of 1 child(ren) reported to not be attending school.

Top 3 reported reasons why school-aged children were not attending school by households with children not attending school:

1. Fear of school collapsing - 57%
2. School damaged/destroyed - 21%
3. School has no space or is overcrowded - 14%

Condition of school facilities:

% of households reported the condition of the nearby school to be:

- Good condition: 11%
- Lightly damaged: 44%
- Moderately damaged: 37%
- Severe damage: 5%
- Don’t know: 1%
- Other: 2%

Food Security

Reported Food Consumption Score (FCS) and reduced Coping Strategy Index (rCSI)

Food Consumption Score: 98%
- Acceptable
2%
- Borderline
0%
- Poor

% of households per main reported source of food in week prior to data collection:

- Purchased with own cash: 92%
- Food assistance (government): 6%
- Purchased with cash assistance: 2%

Health

Immunization:

4% of households reported having children in the household that were not immunized for measles, mumps, and rubella (MMR).

Illness and injury:

27% of households reported that a member of the household had suffered from a health issue (illness or injury) in the 30 days prior to data collection.

Education

14% of households with children reported having school-aged children who were not attending school following the disaster.

13. Due to the sensitivity over asking about monthly income, respondents were asked what range their monthly income fell within. The upper bound of the range was used, and current income was divided by previous income before being averaged.
14. 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).
15. rCSI is a measure of food security that looks at a set list of five coping strategies that households might be using to make food last longer in the absence of sufficient foods. It uses 5 commonly practiced coping strategies across the world. rCSI was calculated by asking respondents how many days per week their household adopted different coping strategies to make food last longer. The number of days was then multiplied by a coefficient based on the coping strategy and 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 scores greater than or equal to 10 are concerning (WFP VAM Unit, Afghanistan, Guidance note: calculation of household food security outcome indicators, December 2012).
16. Single-choice question; only the top three responses are shown.
17. Respondents could select multiple responses; only the top three choices are shown.
Top 3 types of health concerns reported by households with a member who had suffered from health issues in the 30 days prior to data collection: 18

1. Coughing 69%
2. Fever 45%
3. Diarrheal diseases 21%

Main barriers to accessing healthcare reported by households who had needed to access medical treatment the 30 days prior to data collection: 19

1. No issues 72%
2. No information where health facilities are 17%
3. No medicine/treatment available 3%

Main reasons (if any) that households have had to access health services in the 30 days prior to data collection: 20

1. Get regular medications 59%
2. None 26%
3. Treat health problems 24%

1.2.3 Priority Needs

Top 3 most important priority needs as reported by households: 20

1. Food 91%
2. Kitchen ware 40%
3. Water 31%

% of households by most preferred source from which they would like to receive new information: 19

- Face-to-face communication (e.g. from friends) 80%
- Telephone/mobile phone (Voice Call) 17%
- Social media 2%

Humanitarian assistance of households reported that they had received humanitarian aid in the 30 days prior to data collection: 18

43%

Top 3 most common types of aid that households reported having received:

1. Food 91%
2. Water 22%
3. Tents 11%

% of households by most common reported source of aid: 18

- Government distribution 41%
- Friends and family 22%
- NGO distribution 17%

52% of households reported that they were happy with the aid that they had received in the 30 days prior to data collection.
Background and methodology

Following a 7.7 magnitude earthquake on 28 September, 2018, large parts of Palu, Donggala, Sigi, and Parigi Moutong regencies in Central Sulawesi province were destroyed by earthquake, tsunami, and liquefaction events. As of 10 December 2018, approximately 2,101 people have been killed, 1,373 are missing, and an estimated 133,631 individuals were displaced in informal settlements. An estimated 15,000 houses have been destroyed and another 17,000 heavily damaged. However, four months after the initial disaster, there is still very little understanding of the needs and vulnerabilities of the affected population in Central Sulawesi Province.

To fill this gap, a Multi-Sector Needs Assessment (MSNA) was conducted by Humanitarian Forum Indonesia (HFI) and Universitas Muhammadiyah Palu (UNISMUH) with oversight from the Ministry of Social Affairs (Kemensos) and technical support from REACH, in 38 of 62 sub-districts in the four affected regencies of Central Sulawesi Province.

A sample of 104 out of a total population of 253,926 households were surveyed across the four affected regencies between 22 January and 6 February 2019. Results were weighted by population and generalizable to the crisis level with 95% confidence level and 10% margin of error.

Demographics

- **Household composition by gender and age**
  - 4% 60+ years 3%
  - 28% 18–59 years 27%
  - 7% 13–17 years 7%
  - 6% 6–12 years 6%
  - 4% 1–5 years 4%
  - 1% <1 year 2%

- **Head of Household**
  - 14% of heads of households were female
  - 14% of heads of households were elderly
  - 48 average age of the head of household in years

- **Dependency ratio**
  - 0.7 average youth dependency ratio
  - 0.2 average elderly dependency ratio
  - 0.9 average age-dependency ratio

- **% of households by current living location:**
  - 69% Own home
  - 2% Shelter next to original home
  - 7% Renting (non-displaced)
  - 6% Renting (displaced)
  - 12% Staying in another home that is not their own
  - 4% Informal settlement
  - 0% Other

2. The boundaries and names used on this map do not imply official endorsement or acceptance by REACH, UNICEF, HFI, or UNISMUH. Population data was extracted at desa-level from SIAK (Population Information Administration System) database, Ministry of Home Affairs (MoHA, 2017). Population of missing desas was imputed using data from the Indonesia Bureau of Statistics, 2010.
3. Respondent metadata provides information on the respondents interviewed for the questionnaire. While the respondent was usually the head of household, if the head of household was not present at the time of interview, a member of the household knowledgeable about household affairs responded instead. This section only shows information on respondents, not the heads of household. Results in this section are not weighted by population, and should be considered as indicative.
4. Age-dependency ratio was calculated by dividing the number of under-age and elderly (non-productive) individuals (0–17 years for youth and 60+ years for elderly) by the number of adult (productive) individuals in the population (18–59 years). Anything below 1 shows that the population is mostly adults of working-age who can provide for those who are not.
5. Households were categorised based on whether they were still living on their original land, or if they were displaced by the disaster. Those living in their original home, renting (in the same location both before and after the disaster) or living in a tent/makeshift shelter next to their
Displacement and Protection

**Displaced population**
- 24% of households were no longer living in their original house due to the disaster.

*Chart showing the percentage of households living in different locations:
  - Nearby/on site: 39%
  - Within 2km: 22%
  - Between 2km–5km: 5%
  - More than 5km or Don’t know: 34%*

**Non-displaced population**
- 10% of non-displaced households were hosting at least one displaced household in a house that they own.

*Average of 2 IDP individuals per displaced household hosted by a non-displaced household.*

- Average dependency ratio of displaced household size to hosting household size for non-displaced households hosting IDPs: 0.3

**Movement intentions in the next 6 months**
- 86% of households want to remain in the current location.
- 5% want to return back to their original home.
- 4% want to move into the Government Transitional Shelter.

**Top 3 reasons for moving or staying**
1. House destroyed/severely damaged: 57%
2. Heavy damage to house: 40%
3. Lack of livelihood opportunities: 20%

Disabilities, Elderly, Minorities
- 2% of households contained at least one member with a self-reported physical or mental disability.

Child Protection
- 4% of households contained at least one child that was separated from their usual caregiver.

Psychosocial Support
- 42% of households reported having at least one member experiencing emotional distress from the disaster.

Shelter
- 64% of households reported that their original shelter was either destroyed or damaged by the disaster.

*Chart showing the percentage of households by type of shelter:
  - House: 80%
  - Apartment: 12%
  - Transitional shelter (individual): 2%
  - Makeshift Shelter: 2%
  - Tent: 4%
  - Don’t know: 0%
  - Other: 0%*

Preferred Shelter Assistance
- 65% of households reported that they would prefer to rebuild or repair their original home in the next 6 months.

**Protection of Women’s Needs**
- 21% of households contained at least one pregnant or lactating woman.

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*Note: The numbers in brackets refer to the page numbers in the original document.*

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*6. Dependency ratio is calculated by dividing the number of IDP individuals being hosted by the total size of the host household. The number shows the relative burden that hosting households have to support IDP households.
7. Single-choice question; only the top three responses are shown.
8. Respondents could select multiple responses; therefore results may exceed 100%; only the top three choices are shown.
9. In many households in Central Sulawesi, there is a cultural practice in which one household owns many plots of land, and other households are permitted to live on it without any formal agreement.*
Top 3 preferred types of assistance that households wanted to receive in order to rebuild/repair their homes in the 6 months after data collection: 10

1. Assistance to build/repair shelter 48%
2. Shelter building materials 44%
3. None 25%

Top 3 most needed Non-Food Items (NFIs): 10

1. Cooking utensils/kitchen set; 54%
2. Bedding items (bedsheets, pillows); 44%
3. Blankets 27%

Hygiene practices
% of households by location used for hand washing:

- 58% Pouring device/sink faucet
- 34% Basin/bucket
- 8% No device
- 0% Don’t know

97% of households have water available for hand washing
88% of households have soap available for hand washing

Sanitation conditions
% of households by most common defecation practice:

- 88% Household latrine/toilet
- 9% Communal latrine/toilet
- 2% Open defecation
- 1% Don’t know

There is an average of 18 households reported to be sharing each communal latrine 11

Household and communal latrine conditions

- 86% of households with communal latrines reported their toilet had adequate lighting
- 4% of households with communal toilets reported that there are separate toilets for men and women
- 90% of households with communal toilets reported their toilet is not inside the household and has locks on the doors

Water, Sanitation and Hygiene

Access to Water
% of households acquired most of their drinking water from the following sources:

- 21% Piped water
- 22% Public tap
- 8% Protected well/spring
- 3% Water tank/trucking
- 46% Bottled water
- 0% Unprotected source
- 0% Don’t know

96% of households reported drinking water that had been treated and was safe to drink
86% of households reported having enough water to meet their total needs for drinking, cooking, bathing, and washing

% of households by reported amount of time it takes to walk to main water source, fetch water, and return (including queuing at the water source):

- 83% Water source located on site
- 6% Less than 10 minutes
- 5% 10–20 minutes
- 3% More than 20 minutes
- 3% Don’t know

Economy

Occupation and employment
Main occupation of the household reported by households before the disaster and in the last month: 12

<table>
<thead>
<tr>
<th>Before Disaster</th>
<th>January 2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>19% Small business owner</td>
<td>17% Small business owner</td>
</tr>
<tr>
<td>17% Government job</td>
<td>15% Government job</td>
</tr>
<tr>
<td>15% Vocational profession</td>
<td>14% Vocational profession</td>
</tr>
</tbody>
</table>

10. Respondents could select up to three responses; therefore results may exceed 100%; only the top three choices are shown.
11. Average taken from households reporting the use of communal latrines.
12. Single-choice question; only the top three responses are shown.
% of households reporting that the household main income was unemployment, before and after the disaster:

Before Disaster  January 2019
6% are unemployed  12%

50% of households had at least one working-age household member that is not working

Main reported barriers to finding work:13
The recent disaster destroyed previous business/job opportunities 50%
Available jobs are too far away 25%
Increased competition for jobs 14%

There is an average reported loss of 20% of household income due to the disaster13

Food Security

Reported Food Consumption Score (FCS) and reduced Coping Strategy Index (rCSI)
Food Consumption Score14  average rCSI score15
- 91% Acceptable  2.1
- 8% Borderline
- 1% Poor

% of households per main reported source of food in week prior to data collection:18
- Purchased with own cash 92%
- Gift from family or friends 2%
- Food assistance (charity, private company) 2%

Health

Immunization
28% of households reported having children in the household that were not immunized for measles, mumps, and rubella (MMR).

Illness and injury
30% of households reported that a member of the household had suffered from a health issue (illness or injury) in the 30 days prior to data collection

13. Due to the sensitivity over asking about monthly income, respondents were asked what range their monthly income fell within. The upper bound of the range was used, and current income was divided by previous income before being averaged.
14. 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).
15. rCSI is a measure of food security that looks at a set list of five coping strategies that households might be using to make food last longer in the absence of sufficient foods. It uses 5 commonly practiced coping strategies across the world. rCSI was calculated by asking respondents how many days per week their household adopted different coping strategies to make food last longer. The number of days was then multiplied by a coefficient based on the coping strategy and 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 scores greater than or equal to 10 are concerning (WFP VAM Unit, Afghanistan, Guidance note: calculation of household food security outcome indicators, December 2012).
16. Single-choice question; only the top three responses are shown.
17. Respondents could select multiple responses; only the top three choices are shown.
Top 3 types of health concerns reported by households with a member who had suffered from health issues in the 30 days prior to data collection:\textsuperscript{18}

\begin{itemize}
\item \textbf{1.} Fever \hfill 42%
\item \textbf{2.} Coughing \hfill 32%
\item \textbf{3.} Diarrheal diseases \hfill 32%
\end{itemize}

Main barriers to accessing healthcare reported by households who had needed to access medical treatment the 30 days prior to data collection:\textsuperscript{19}

\begin{itemize}
\item No issues \hfill 58%
\item Don’t know \hfill 23%
\item Cost of medicine/treatment too high \hfill 10%
\end{itemize}

Main reasons (if any) that households have had to access health services in the 30 days prior to data collection:\textsuperscript{20}

\begin{itemize}
\item None \hfill 53%
\item Get regular medications \hfill 38%
\item Treat health problems \hfill 19%
\end{itemize}

### Priority Needs

Top 3 most important priority needs as reported by households:\textsuperscript{20}

\begin{itemize}
\item \textbf{1.} Food \hfill 83%
\item \textbf{2.} Water \hfill 48%
\item \textbf{3.} Electricity \hfill 35%
\end{itemize}

### Communication with Communities

#### Information Needs

\begin{itemize}
\item Status of housing \hfill 34%
\item Livelihoods \hfill 19%
\item Humanitarian assistance \hfill 14%
\end{itemize}

\textsuperscript{18} Respondents could select multiple responses, therefore results may exceed 100%; only the top three choices are shown.

\textsuperscript{19} Single-choice question; only the top three responses are shown.

\textsuperscript{20} Respondents could select up to three responses, therefore results may exceed 100%; only the top three choices are shown.
Background and methodology

Following a 7.7 magnitude earthquake on 28 September, 2018, large parts of Palu, Donggala, Sigi, and Parigi Moutong regencies in Central Sulawesi province were destroyed by earthquake, tsunami, and liquefaction events. As of 10 December 2018, approximately 2,101 people have been killed, 1,373 are missing, and an estimated 133,631 individuals were displaced in informal settlements. An estimated 15,000 houses have been destroyed and another 17,000 heavily damaged. However, four months after the initial disaster, there is still very little understanding of the needs and vulnerabilities of the affected population in Central Sulawesi Province.

To fill this gap, a Multi-Sector Needs Assessment (MSNA) was conducted by Humanitarian Forum Indonesia (HFI) and Universitas Muhammadiyah Palu (UNISMUH) with oversight from the Ministry of Social Affairs (Kemensos) and technical support from REACH, in 38 of 62 sub-districts in the four affected regencies of Central Sulawesi Province.

A sample of 118 out of a total population of 253,926 households were surveyed across the four affected regencies between 22 January and 6 February 2019. Results were weighted by population and generalizable to the crisis level with 95% confidence level and 10% margin of error.

Demographics

Household composition by gender and age

- 4% 60+ years
- 28% 18–59 years
- 6% 13–17 years
- 8% 6–12 years
- 5% 1–5 years
- 1% <1 year

Head of Household

- 10% of heads of households were female
- 13% of heads of households were elderly
- 45 average age of the head of household in years

Dependency ratio

- 0.7 average youth dependency ratio
- 0.2 average elderly dependency ratio
- 0.9 average age-dependency ratio

% of households by current living location:

- 61% Own home
- 7% Shelter next to original home
- 0% Renting (non-displaced)
- 2% Renting (displaced)
- 5% Staying in another home that is not their own
- 25% Informal settlement
- 0% Other

Respondent metadata

- 118 Total households interviewed
- 42 Average age of respondent in years
- 65% of respondents were female

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3. Respondent metadata provides information on the respondents interviewed for the questionnaire. While the respondent was usually the head of household, if the head of household was not present at the time of interview, a member of the household knowledgeable about household affairs responded instead. This section only shows information on respondents, not the heads of household. Results in this section are not weighted by population, and should be considered as indicative.
4. Age-dependency ratio was calculated by dividing the number of under-age and elderly (non-productive) individuals (0–17 years for youth and 60+ years for elderly) by the number of adult (productive) individuals in the population (18–59 years). Anything below 1 shows that the population is mostly adults of working-age who can provide for those who are not.
5. Households were categorised based on whether they were still living on their original land, or if they were displaced by the disaster. Those living in their original home, renting (in the same location both before and after the disaster) or living in a tent/makeshift shelter next to their home.
Displaced population

39% of households were no longer living in their original house due to the disaster.

- 13% Nearby/on site
- 55% Within 2km
- 13% Between 2km–5km
- 19% More than 5km or Don’t know

Non-displaced population

9% of non-displaced households were hosting at least one displaced household in a house that they own.

Shelter conditions

- 65% House
- 3% Apartment
- 3% Transitional shelter (individual)
- 2% Makeshift Shelter
- 27% Tent
- 0% Don’t know
- 0% Other

Disabilities, Elderly, Minorities

7% of households contained at least one member with a self-reported physical or mental disability

Child Protection

2% of households contained at least one child that was separated from their usual caregiver

Psychosocial Support

74% of households reported having at least one member experiencing emotional distress from the disaster

Protection of Women’s Needs

17% of households contained at least one pregnant or lactating woman

Displacement and Protection

- 39% of households were no longer living in their original house due to the disaster.

- % of households no longer living on land they own by distance from their current living location to their original house:
  - Nearby/on site: 13%
  - Within 2km: 55%
  - Between 2km–5km: 13%
  - More than 5km or Don’t know: 19%

Non-displaced population

- 9% of non-displaced households were hosting at least one displaced household in a house that they own.

Movement intentions in the next 6 months

- 64% Remain in the current location
- 14% Move into the Government Transitional Shelter
- 12% Return back to original home

Top 3 most reported reasons as to why households chose to move or to stay in their preferred living location for the next 6 months:

1. House destroyed/severely damaged (59%)
2. Fear that house is still unsafe (44%)
3. Fear that land is still unsafe (36%)

Protection of Women’s Needs

- 17% of households contained at least one pregnant or lactating woman.

Displacement and Protection

Palu City, Tawaeli Sub-District

- 589% of households were no longer living in their original house due to the disaster.

- % of households no longer living on land they own by distance from their current living location to their original house:
  - Nearby/on site: 13%
  - Within 2km: 55%
  - Between 2km–5km: 13%
  - More than 5km or Don’t know: 19%

Non-displaced population

- 9% of non-displaced households were hosting at least one displaced household in a house that they own.

Movement intentions in the next 6 months

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1. House destroyed/severely damaged (59%)
2. Fear that house is still unsafe (44%)
3. Fear that land is still unsafe (36%)

Disabilities, Elderly, Minorities

- 7% of households contained at least one member with a self-reported physical or mental disability.

Child Protection

- 2% of households contained at least one child that was separated from their usual caregiver.

Psychosocial Support

- 74% of households reported having at least one member experiencing emotional distress from the disaster.

Shelter conditions

- 65% House
- 3% Apartment
- 3% Transitional shelter (individual)
- 2% Makeshift Shelter
- 27% Tent
- 0% Don’t know
- 0% Other

Displacement and Protection

Palu City, Tawaeli Sub-District

- 589% of households were no longer living in their original house due to the disaster.

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Shelter conditions

- 65% House
- 3% Apartment
- 3% Transitional shelter (individual)
- 2% Makeshift Shelter
- 27% Tent
- 0% Don’t know
- 0% Other
Top 3 preferred types of assistance that households wanted to receive in order to rebuild/repair their homes in the 6 months after data collection:10

1. Assistance to build/repair shelter 67%
2. Shelter building materials 64%
3. Construction labor 25%

Top 3 most needed Non-Food Items (NFIs):10

1. Cooking utensils/kitchen set; 70%
2. Cooking stove 45%
3. Mattresses/Sleeping mats 42%

Water, Sanitation and Hygiene

Access to Water
% of households acquired most of their drinking water from the following sources:

- 6% Piped water
- 45% Public tap
- 13% Protected well/spring
- 3% Water tank/trucking
- 30% Bottled water
- 3% Unprotected source
- 0% Don’t know

92% of households reported drinking water that had been treated and was safe to drink

79% of households reported having enough water to meet their total needs for drinking, cooking, bathing, and washing

% of households by reported amount of time it takes to walk to main water source, fetch water, and return (including queuing at the water source):

- 68% Water source located on site
- 20% Less than 10 minutes
- 5% 10–20 minutes
- 6% More than 20 minutes
- 1% Don’t know

Hygiene practices

% of households by location used for hand washing:

- 26% Pouring device/sink faucet
- 69% Basin/bucket
- 5% No device
- 0% Don’t know

92% of households have water available for hand washing
72% of households have soap available for hand washing

Sanitation conditions

% of households by most common defecation practice:

- 62% Household latrine/toilet
- 30% Communal latrine/toilet
- 6% Open defecation
- 2% Don’t know

There is an average of 16 households reported to be sharing each communal latrine11

Household and communal latrine conditions

- 77% of households with communal latrines reported their toilet had adequate lighting
- 9% of households with communal toilets reported that there are separate toilets for men and women
- 82% of households with communal toilets reported their toilet is not inside the household and has locks on the doors

Economy

Occupation and employment

Main occupation of the household reported by households before the disaster and in the last month;12

<table>
<thead>
<tr>
<th>Before Disaster</th>
<th>January 2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>23% Small business owner</td>
<td>1 Small business owner 22%</td>
</tr>
<tr>
<td>14% Construction</td>
<td>2 Unemployed 20%</td>
</tr>
<tr>
<td>14% Fishing</td>
<td>3 Construction 10%</td>
</tr>
</tbody>
</table>

10. Respondents could select up to three responses; therefore results may exceed 100%; only the top three choices are shown.
11. Average taken from households reporting the use of communal latrines.
12. Single-choice question; only the top three responses are shown.
Among households where children were not attending school, there was an average of 0 children reported to not be attending school.

Top 3 reported reasons why school-aged children were not attending school by households with children not attending school:

1. NA 0%
2. NA 0%
3. NA 0%

Condition of school facilities

% of households reported the condition of the nearby school to be the following:

- 10% Good condition
- 24% Lightly damaged
- 44% Moderately damaged
- 14% Severe damage
- 7% Don't know
- 1% Other

Main reported barriers to finding work:

- The recent disaster destroyed previous business/job opportunities 54%
- Underqualified for available jobs 14%
- The recent disaster destroyed boats/fishing materials 14%

There is an average reported loss of 20% of household income due to the disaster.

**Food Security**

Reported Food Consumption Score (FCS) and reduced Coping Strategy Index (rCSI)

Food Consumption Score:
- 94% Acceptable
- 5% Borderline
- 1% Poor

Average rCSI score:

- 4.2

% of households per main reported source of food in week prior to data collection:

- Purchased with own cash 75%
- Food assistance (charity, private company) 13%
- Gift from family or friends 6%

**Health**

Immunization

41% of households reported having children in the household that were not immunized for measles, mumps, and rubella (MMR).

Illness and injury

55% of households reported that a member of the household had suffered from a health issue (illness or injury) in the 30 days prior to data collection.

13. Due to the sensitivity over asking about monthly income, respondents were asked what range their monthly income fell within. The upper bound of the range was used, and current income was divided by previous income before being averaged.
14. 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 VAM Unit, Afghanistan, Guidance note: calculation of household food security outcome indicators, December 2012).
15. rCSI is a measure of food security that looks at a set list of five coping strategies that households might be using to make food last longer in the absence of sufficient foods. It uses 5 commonly practiced coping strategies across the world. rCSI was calculated by asking respondents how many days per week their household adopted different coping strategies to make food last longer. The number of days was then multiplied by a coefficient based on the coping strategy and 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 scores greater than or equal to 10 are concerning (WFP VAM Unit, Afghanistan, Guidance note: calculation of household food security outcome indicators, December 2012).
16. Single-choice question; only the top three responses are shown.
17. Respondents could select multiple responses; only the top three choices are shown.
Top 3 types of health concerns reported by households with a member who had suffered from health issues in the 30 days prior to data collection:18

1. Coughing 60%
2. Fever 60%
3. Diarrheal diseases 32%

Main barriers to accessing healthcare reported by households who had needed to access medical treatment the 30 days prior to data collection:19

No issues 91%
Cost of medicine/treatment too high 5%
Don't know 2%

Main reasons (if any) that households have had to access health services in the 30 days prior to data collection:20

1. Treat health problems 43%
2. Get regular medications 41%
3. None 37%

1.2.3 Priority Needs

Top 3 most important priority needs as reported by households:20

1. Food 72%
2. Kitchen ware 61%
3. Other NFIs 41%

% of households by most preferred source from which they would like to receive new information:19

Face-to-face communication (e.g. from friends) 85%
Television 8%
Loud speakers 3%

Humanitarian assistance

61% of households reported that they had received humanitarian aid in the 30 days prior to data collection

Top 3 most common types of aid that households reported having received:18

1. Food 96%
2. Water 22%
3. Tents 18%

% of households by most common reported source of aid:18

Government distribution 44%
NGO distribution 35%
PMI (Indonesian Red Cross) 10%

74% of households reported that they were happy with the aid that they had received in the 30 days prior to data collection

18. Respondents could select multiple responses, therefore results may exceed 100%; only the top three choices are shown.
19. Single-choice question; only the top three responses are shown.
20. Respondents could select up to three responses, therefore results may exceed 100%; only the top three choices are shown.
Background and methodology

Following a 7.7 magnitude earthquake on 28 September, 2018, large parts of Palu, Donggala, Sigi, and Parigi Moutong regencies in Central Sulawesi province were destroyed by earthquake, tsunami, and liquefaction events. As of 10 December 2018, approximately 2,101 people have been killed, 1,373 are missing, and an estimated 133,631 individuals were displaced in informal settlements.\(^1\) An estimated 15,000 houses have been destroyed and another 17,000 heavily damaged. However, four months after the initial disaster, there is still very little understanding of the needs and vulnerabilities of the affected population in Central Sulawesi Province.

To fill this gap, a Multi-Sector Needs Assessment (MSNA) was conducted by Humanitarian Forum Indonesia (HFI) and Universitas Muhammadiyah Palu (UNISMUH) with oversight from the Ministry of Social Affairs (Kemensos) and technical support from REACH, in 38 of 62 sub-districts in the four affected regencies of Central Sulawesi Province.

A sample of 110 out of a total population of 253,926 households were surveyed across the four affected regencies between 22 January and 6 February 2019.\(^2\) Results were weighted by population and generalizable to the crisis level with 95% confidence level and 10% margin of error.

### Demographics

#### Household composition by gender and age

<table>
<thead>
<tr>
<th>Group</th>
<th>Female (%)</th>
<th>Male (%)</th>
<th>60+ years (%)</th>
<th>18–59 years (%)</th>
<th>13–17 years (%)</th>
<th>6–12 years (%)</th>
<th>1–5 years (%)</th>
<th>&lt;1 year (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>7%</td>
<td>2%</td>
<td>3%</td>
<td>30%</td>
<td>6%</td>
<td>7%</td>
<td>7%</td>
<td>2%</td>
</tr>
<tr>
<td>Female</td>
<td>30%</td>
<td>29%</td>
<td>2%</td>
<td>3%</td>
<td>7%</td>
<td>6%</td>
<td>6%</td>
<td>1%</td>
</tr>
</tbody>
</table>

There was an average of 5 individuals reported per household.

#### Head of Household

- 11% of heads of households were female
- 7% of heads of households were elderly
- 43 average age of the head of household in years

#### Dependency ratio\(^4\)

- 0.7 average youth dependency ratio
- 0.1 average elderly dependency ratio
- 0.8 average age-dependency ratio

#### % of households by current living location:\(^5\)

- 80% Own home
- 1% Shelter next to original home
- 2% Renting (non-displaced)
- 1% Renting (displaced)
- 8% Staying in another home that is not their own
- 7% Informal settlement
- 1% Other

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\(^1\) Central Sulawesi Earthquake & Tsunami, Humanitarian Country Team Situation Report #10, 10 December 2018.

\(^2\) The boundaries and names used on this map do not imply official endorsement or acceptance by REACH, UNICEF, HFI, or UNISMUH. Population data was extracted at desa-level from SIAK (Population Information Administration System) database, Ministry of Home Affairs (MoHA, 2017). Population of missing desas was imputed using data from the Indonesia Bureau of Statistics, 2010.

\(^3\) Respondent metadata provides information on the respondents interviewed for the questionnaire. While the respondent was usually the head of household, if the head of household was not present at the time of interview, a member of the household knowledgeable about household affairs responded instead. This section only shows information on respondents, not the heads of household. Results in this section are not weighted by population, and should be considered as indicative.

\(^4\) Age-dependency ratio was calculated by dividing the number of under-age and elderly (non-productive) individuals (0–17 years for youth and 60+ years for elderly) by the number of adult (productive) individuals in the population (18–59 years). Anything below 1 shows that the population is mostly adults of working-age who can provide for those who are not.

\(^5\) Households were categorised based on whether they were still living on their original land, or if they were displaced by the disaster. Those living in their original home, renting (in the same location both before and after the disaster) or living in a tent/makeshift shelter next to their
### Displaced and Protection

#### Displaced population

<table>
<thead>
<tr>
<th>% of households</th>
<th>Reason</th>
</tr>
</thead>
<tbody>
<tr>
<td>18%</td>
<td>no longer living in their original house due to the disaster</td>
</tr>
</tbody>
</table>

#### Non-displaced population

<table>
<thead>
<tr>
<th>% of households</th>
<th>Reason</th>
</tr>
</thead>
<tbody>
<tr>
<td>8%</td>
<td>hosting at least one displaced household in a house that they own</td>
</tr>
</tbody>
</table>

There is an average of 6 IDP individuals in each displaced household hosted by a non-displaced household. The average dependency ratio of displaced household size to hosting household size for non-displaced households hosting IDPs is 1.7.

### Movement intentions in the next 6 months

<table>
<thead>
<tr>
<th>% of households</th>
<th>Intentions</th>
</tr>
</thead>
<tbody>
<tr>
<td>89%</td>
<td>Remain in the current location</td>
</tr>
<tr>
<td>4%</td>
<td>Move to a new location</td>
</tr>
<tr>
<td>3%</td>
<td>Return back to original home</td>
</tr>
</tbody>
</table>

Top 3 most reported reasons as to why households chose to move or to stay in their preferred living location for the next 6 months:

1. Heavy damage to house (60%)
2. House destroyed/severely damaged (40%)
3. Fear that land is still unsafe (40%)

### Protection of Women’s Needs

<table>
<thead>
<tr>
<th>% of households</th>
<th>Reason</th>
</tr>
</thead>
<tbody>
<tr>
<td>26%</td>
<td>contained at least one pregnant or lactating woman</td>
</tr>
</tbody>
</table>

### Disabilities, Elderly, Minorities

<table>
<thead>
<tr>
<th>% of households</th>
<th>Disability</th>
</tr>
</thead>
<tbody>
<tr>
<td>1%</td>
<td>self-reported physical or mental disability</td>
</tr>
</tbody>
</table>

### Child Protection

<table>
<thead>
<tr>
<th>% of households</th>
<th>Reason</th>
</tr>
</thead>
<tbody>
<tr>
<td>2%</td>
<td>child separated from their usual caregiver</td>
</tr>
</tbody>
</table>

### Psychosocial Support

<table>
<thead>
<tr>
<th>% of households</th>
<th>Reason</th>
</tr>
</thead>
<tbody>
<tr>
<td>44%</td>
<td>experiencing emotional distress from the disaster</td>
</tr>
</tbody>
</table>

### Shelter

#### Shelter conditions

<table>
<thead>
<tr>
<th>% of households</th>
<th>Type of shelter</th>
</tr>
</thead>
<tbody>
<tr>
<td>90%</td>
<td>House</td>
</tr>
<tr>
<td>3%</td>
<td>Apartment</td>
</tr>
<tr>
<td>1%</td>
<td>Transitional shelter (individual)</td>
</tr>
<tr>
<td>1%</td>
<td>Makeshift Shelter</td>
</tr>
<tr>
<td>4%</td>
<td>Tent</td>
</tr>
<tr>
<td>0%</td>
<td>Don’t know</td>
</tr>
<tr>
<td>1%</td>
<td>Other</td>
</tr>
</tbody>
</table>

72% of households reported that their original shelter was either destroyed or damaged by the disaster.

#### Preferred Shelter Assistance

<table>
<thead>
<tr>
<th>% of households</th>
<th>Reason</th>
</tr>
</thead>
<tbody>
<tr>
<td>70%</td>
<td>rebuild or repair their original home in the next 6 months</td>
</tr>
</tbody>
</table>

6. Dependency ratio is calculated by dividing the number of IDP individuals being hosted by the total size of the host household. The number shows the relative burden that hosting households have to support IDP households.

7. Single-choice question; only the top three responses are shown.

8. Respondents could select multiple responses; therefore results may exceed 100%; only the top three choices are shown.

9. In many households in Central Sulawesi, there is a cultural practice in which one household owns many plots of land, and other households are permitted to live on it without any formal agreement.
Top 3 preferred types of assistance that households wanted to receive in order to rebuild/repair their homes in the 6 months after data collection:10

1. Assistance to build/repair shelter (60%)
2. Shelter building materials (42%)
3. Future disaster information (22%)

Top 3 most needed Non-Food Items (NFIs):10

1. Cooking utensils/kitchen set; (64%)
2. Bedding items (bedsheets, pillows); (39%)
3. Mattresses/Sleeping mats (24%)

Hygiene practices

% of households by location used for hand washing:

- 66% Pouring device/sink faucet
- 27% Basin/bucket
- 7% No device
- 0% Don’t know

94% of households have water available for hand washing

68% of households have soap available for hand washing

Sanitation conditions

% of households by most common defecation practice:

- 77% Household latrine/toilet
- 18% Communal latrine/toilet
- 4% Open defecation
- 1% Don’t know

There is an average of 13 households reported to be sharing each communal latrine11

Household and communal latrine conditions

- 86% of households with communal latrines reported their toilet had adequate lighting
- 14% of households with communal toilets reported that there are separate toilets for men and women
- 86% of households with communal toilets reported their toilet is not inside the household and has locks on the doors

Water, Sanitation and Hygiene

Access to Water

% of households acquired most of their drinking water from the following sources:

- 19% Piped water
- 31% Public tap
- 30% Protected well/spring
- 4% Water tank/trucking
- 9% Bottled water
- 7% Unprotected source
- 0% Don’t know

99% of households reported drinking water that had been treated and was safe to drink

96% of households reported having enough water to meet their total needs for drinking, cooking, bathing, and washing

% of households by reported amount of time it takes to walk to main water source, fetch water, and return (including queuing at the water source):

- 86% Water source located on site
- 9% Less than 10 minutes
- 3% 10–20 minutes
- 1% More than 20 minutes
- 1% Don’t know

There is an average of 13 households reported to be sharing each communal latrine11

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Economy

Occupation and employment

Main occupation of the household reported by households before the disaster and in the last month:12

<table>
<thead>
<tr>
<th>Before Disaster</th>
<th>January 2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>24% Government job</td>
<td>1 Government job</td>
</tr>
<tr>
<td>21% Service industry</td>
<td>2 Service industry</td>
</tr>
<tr>
<td>14% Small business owner</td>
<td>3 Small business owner</td>
</tr>
</tbody>
</table>

10. Respondents could select up to three responses; therefore results may exceed 100%; only the top three choices are shown.
11. Average taken from households reporting the use of communal latrines.
12. Single-choice question; only the top three responses are shown.
Among households where children were not attending school, there was an average of 1 child(ren) reported to not be attending school.

Top 3 reported reasons why school-aged children were not attending school by households with children not attending school:

1. Fear of school collapsing (31%)
2. School damaged/destroyed (31%)
3. Other (10%)

**Condition of school facilities**

% of households reported the condition of the nearby school to be the following:

- Good condition (10%)
- Lightly damaged (39%)
- Moderately damaged (26%)
- Severe damage (10%)
- Don’t know (9%)
- Other (6%)

% of households per main reported source of food in week prior to data collection:

- Purchased with own cash (97%)
- Own production (hunting, fishing, farming) (2%)
- Food assistance (government) (1%)

13. Due to the sensitivity over asking about monthly income, respondents were asked what range their monthly income fell within. The upper bound of the range was used, and current income was divided by previous income before being averaged.

14. 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).

15. rCSI is a measure of food security that looks at a set list of five coping strategies that households might be using to make food last longer in the absence of sufficient foods. It uses 5 commonly practiced coping strategies across the world. rCSI was calculated by asking respondents how many days per week their household adopted different coping strategies to make food last longer. The number of days was then multiplied by a coefficient based on the coping strategy and 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 scores greater than or equal to 10 are concerning (WFP VAM Unit, Afghanistan, Guidance note: calculation of household food security outcome indicators, December 2012).

16. Single-choice question; only the top three responses are shown.

17. Respondents could select multiple responses; only the top three choices are shown.
Top 3 types of health concerns reported by households with a member who had suffered from health issues in the 30 days prior to data collection:

1. Coughing 74%
2. Fever 56%
3. Diarrheal diseases 32%

Main barriers to accessing healthcare reported by households who needed to access medical treatment the 30 days prior to data collection:

- No issues 85%
- Cost of medicine/treatment too high 6%
- No information where health facilities are 3%

Main reasons (if any) that households have had to access health services in the 30 days prior to data collection:

1. Get regular medications 59%
2. Treat health problems 37%
3. None 24%

Top 3 most important priority needs as reported by households:

1. Food 76%
2. Kitchen ware 46%
3. Water 36%

% of households by most preferred source from which they would like to receive new information:

- Face-to-face communication (e.g. from friends) 76%
- Television 14%
- Mobile Phone (text SMS) 4%

Humanitarian assistance

- 32% of households reported that they had received humanitarian aid in the 30 days prior to data collection

Top 3 most common types of aid that households reported having received:

1. Food 91%
2. Water 46%
3. Health 29%

% of households by most common reported source of aid:

- Government distribution 66%
- PMI (Indonesian Red Cross) 26%
- NGO distribution 6%

91% of households reported that they were happy with the aid that they had received in the 30 days prior to data collection

18. Respondents could select multiple responses, therefore results may exceed 100%; only the top three choices are shown.
19. Single-choice question; only the top three responses are shown.
20. Respondents could select up to three responses, therefore results may exceed 100%; only the top three choices are shown.