INDONESIA

Central Sulawesi Earthquake, Tsunami, and Liquefaction: Population Needs

Multi-Sector Needs Assessment: Sub-District Profiles, Parigi Moutong Regency

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 126 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

<table>
<thead>
<tr>
<th>Gender</th>
<th>0–1 year</th>
<th>1–5 years</th>
<th>6–12 years</th>
<th>13–17 years</th>
<th>18–59 years</th>
<th>60+ years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>1%</td>
<td>2%</td>
<td>7%</td>
<td>8%</td>
<td>32%</td>
<td>2%</td>
</tr>
<tr>
<td>Female</td>
<td>1%</td>
<td>1%</td>
<td>8%</td>
<td>30%</td>
<td>32%</td>
<td>32%</td>
</tr>
</tbody>
</table>

There was an average of 4 individuals reported per household.

Head of Household

- 3% of heads of households were female
- 4% of heads of households were elderly
- 43 average age of the head of household in years

Dependency ratio^4

- average youth dependency ratio: 0.6
- average elderly dependency ratio: 0.1
- average age-dependency ratio: 0.7

% of households by current living location:

- 92% Own home
- 0% Shelter next to original home
- 2% Renting (non-displaced)
- 0% Renting (displaced)
- 5% Staying in another home that is not their own
- 1% 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/make-shift shelter next to their
Displaced population

- 6% of households were no longer living in their original house due to the disaster
- 100% Nearby/on site
- 0% Within 2km
- 0% Between 2km–5km
- 0% More than 5km or Don’t know

Non-displaced population

- 1% of non-displaced households were hosting at least one displaced household to stay in a house that they own

Disabilities, Elderly, Minorities

- 0% of households contained at least one member with a self-reported physical or mental disability

Child Protection

- 1% of households contained at least one child that was separated from their usual caregiver

Psychosocial Support

- 32% of households reported having at least one member experiencing emotional distress from the disaster

Shelter

Shelter conditions

- 97% House
- 2% Apartment
- 0% Transitional shelter (individual)
- 1% Makeshift Shelter
- 0% Tent
- 0% Don’t know
- 0% Other

- 15% of households reported that their original shelter was either destroyed or damaged by the disaster

Preferred Shelter Assistance

- 21% of households reported that they would prefer to rebuild or repair their original home in the next 6 months

Displacement and Protection

- 6% of households no longer living on land they own by distance from their current living location to their original house:

- 100% Nearby/on site
- 0% Within 2km
- 0% Between 2km–5km
- 0% More than 5km or Don’t know

Displaced population

- 6% of households were no longer living in their original house due to the disaster

Non-displaced population

- 1% of non-displaced households were hosting at least one displaced household to stay in a house that they own

Disabilities, Elderly, Minorities

- 0% of households contained at least one member with a self-reported physical or mental disability

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Shelter conditions

- 97% House
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- 0% Tent
- 0% Don’t know
- 0% Other

- 15% of households reported that their original shelter was either destroyed or damaged by the disaster

Preferred Shelter Assistance

- 21% of households reported that they would prefer to rebuild or repair their original home in the next 6 months

Protection of Women’s Needs

- 10% 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.
Access to Water
% of households acquired most of their drinking water from the following sources:
- 54% Piped water
- 36% Public tap
- 7% Protected well/spring
- 0% Water tank/trucking
- 0% Bottled water
- 3% Unprotected source
- 0% Don’t know

93% of households reported drinking water that had been treated and was safe to drink.
98% of households reported having enough water to meet their total needs for drinking, cooking, bathing, and washing.

Water, Sanitation and Hygiene

Hygiene practices
% of households by location used for hand washing:
- 76% Pouring device/sink faucet
- 24% Basin/bucket
- 0% No device
- 0% Don’t know

100% of households have water available for hand washing
61% of households have soap available for hand washing

Sanitation conditions
% of households by most common defecation practice:
- 96% Household latrine/toilet
- 3% Communal latrine/toilet
- 1% Open defecation
- 0% Don’t know

There is an average of 5 households reported to be sharing each communal latrine.

Household and communal latrine conditions
100% of households with communal latrines reported their toilet had adequate lighting
3% 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

Economy

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

<table>
<thead>
<tr>
<th>Before Disaster</th>
<th>January 2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>29% Small business owner</td>
<td>1 Small business owner 29%</td>
</tr>
<tr>
<td>20% Agricultural</td>
<td>2 Agricultural 19%</td>
</tr>
<tr>
<td>17% Government job</td>
<td>3 Government job 17%</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 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. 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:

- Good condition: 52%
- Lightly damaged: 20%
- Moderately damaged: 21%
- Severe damage: 7%
- Don’t know: 0%
- Other: 0%

There is an average reported loss of 0% of household income due to the disaster\(^{13}\)

### Food Security

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

- Food Consumption Score\(^{14}\) average rCSI score\(^{15}\)
  - 94% Acceptable
  - 6% Borderline
  - 0% Poor

% of households per main reported source of food in week prior to data collection:\(^{18}\)

- Purchased with own cash: 100%
- Purchased on credit (debt): 0%
- Don’t know: 0%

### Health

#### Immunization

- 5% of households reported having children in the household that were not immunized for measles, mumps, and rubella (MMR).

#### Illness and injury

- 21% 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

<table>
<thead>
<tr>
<th>Available jobs are too far away</th>
<th>33%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Underqualified for available jobs</td>
<td>33%</td>
</tr>
<tr>
<td>Disaster destroyed cultivation land for planting</td>
<td>33%</td>
</tr>
</tbody>
</table>

Main reported barriers to finding work:\(^{13}\)

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 48%
2. Coughing 41%
3. Difficulty breathing 11%

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 96%
- Cost of medicine/treatment too high 4%
- No medicine/treatment available 0%

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 52%
2. Get regular medications 43%
3. None 33%

### Priority Needs

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

1. Food 38%
2. Medical care 31%
3. Education for children 31%

### Communication with Communities

### Information Needs

% of households by the type of information that the household reported needing the most: 19

- Healthcare 36%
- Livelihoods 21%
- Humanitarian assistance 20%

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

- Face-to-face communication (e.g. from friends) 54%
- Television 42%
- Social media 4%

**Humanitarian assistance**

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

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

- NA 0%
- NA 0%
- NA 0%

0% 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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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.
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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

<table>
<thead>
<tr>
<th>Category</th>
<th>Male</th>
<th>60+ years</th>
<th>Female</th>
<th>18–59 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>3%</td>
<td>3%</td>
<td></td>
<td>29%</td>
<td></td>
</tr>
<tr>
<td>9%</td>
<td>5%</td>
<td></td>
<td>6%</td>
<td></td>
</tr>
<tr>
<td>2%</td>
<td>4%</td>
<td></td>
<td>0%</td>
<td></td>
</tr>
</tbody>
</table>

There was an average of 4 individuals reported per household

Head of Household

- 8% of heads of households were female
- 14% of heads of households were elderly
- 45 average age of the head of household in years

Dependency ratio

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

% of households by current living location

- 94% Own home
- 0% Shelter next to original home
- 1% Renting (non-displaced)
- 0% Renting (displaced)
- 4% Staying in another home that is not their own
- 1% Informal settlement
- 0% Other

Respondent metadata

- 111 Total households interviewed
- 43 Average age of respondent in years
- 38% of respondents were female

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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 original home were categorised as ‘Own home’. Those renting in a different location, living in an informal settlement, were categorised as ‘Informal settlement’.
Displaced population

5% 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:
- 100% Nearby/on site
- 0% Within 2km
- 0% Between 2km–5km
- 0% More than 5km or Don’t know

Non-displaced population

1% of non-displaced households were hosting at least one displaced household to stay in a house that they own.

There is an average of 0 IDP individuals in each displaced household hosted by a non-displaced household.

Movement intentions in the next 6 months

% of households by where they most want to move to within the next six months:
- 100% Remain in the current location
- 0% Move to a new location
- 0% Don’t know

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. NA
2. NA
3. NA

Prefered Shelter Assistance

36% of households reported that they would prefer to rebuild or repair their original home in the next 6 months.

Disabilities, Elderly, Minorities

3% 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

19% of households reported having at least one member experiencing emotional distress from the disaster.

Shelter

30% of households reported that their original shelter was either destroyed or damaged by the disaster.

% of households by type of shelter they are currently living in at the time of data collection:
- 98% House
- 1% Apartment
- 0% Transitional shelter (individual)
- 1% Makeshift Shelter
- 0% Tent
- 0% Don’t know
- 0% Other

% of households by state of tenure for house at the time of data collection:
- 73% Household owns the land
- 14% Written agreement (still valid)
- 0% Written agreement (expired)
- 13% Verbal/no agreement
- 0% Don’t know

Protection of Women’s Needs

8% of households contained at least one pregnant or lactating woman.

IDP: Internally Displaced Person

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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. None 60%
2. Shelter building materials 22%
3. Assistance to build/repair shelter 18%

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

1. Cooking utensils/kitchen set; 53%
2. Mattresses/Sleeping mats 37%
3. Bedding items (bedsheets, pillows); 37%

Hygiene practices

% of households by location used for hand washing:

- 59% Pouring device/sink faucet
- 41% Basin/bucket
- 0% No device
- 0% Don’t know

99% of households have water available for hand washing
32% of households have soap available for hand washing

Sanitation conditions

% of households by most common defecation practice:

- 79% Household latrine/toilet
- 14% Communal latrine/toilet
- 7% Open defecation
- 0% Don’t know

There is an average of 18 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
2% of households with communal toilets reported that there are separate toilets for men and women
84% 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:

- 55% Piped water
- 24% Public tap
- 12% Protected well/spring
- 0% Water tank/trucking
- 4% Bottled water
- 5% Unprotected source
- 0% Don’t know

98% of households reported drinking water that had been treated and was safe to drink
97% 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):

- 92% Water source located on site
- 7% Less than 10 minutes
- 1% 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:¹²

Before Disaster January 2019

<table>
<thead>
<tr>
<th></th>
<th>Before Disaster</th>
<th>January 2019</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Agricultural</td>
<td>Agricultural</td>
</tr>
<tr>
<td>1</td>
<td>Agricultural</td>
<td>63%</td>
</tr>
<tr>
<td>10%</td>
<td>Government job</td>
<td>Government job</td>
</tr>
<tr>
<td>6%</td>
<td>Teacher, lawyer, engineer</td>
<td>Teacher, lawyer, engineer</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:

<table>
<thead>
<tr>
<th>Before Disaster</th>
<th>January 2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>0%</td>
<td>0%</td>
</tr>
</tbody>
</table>

22% of households had at least one working-age household member that is not working

Main reported barriers to finding work:
1. Underqualified for available jobs: 50%
2. Disaster destroyed business/job opportunities: 25%
3. Disaster destroyed cultivation land for planting: 25%

There is an average reported loss of 0% of household income due to the disaster

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### Food Security

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

- **Food Consumption Score**
  - 94% Acceptable
  - 6% Borderline
  - 0% Poor

- **Average rCSI score**
  - 0.2

% of households per main reported source of food in week prior to data collection:
- Purchased with own cash: 100%
- Food assistance (government): 0%
- Don’t know: 0%

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### Health

**Immunization**

21% of households reported having children in the household that were not immunized for measles, mumps, and rubella (MMR).

**Illness and injury**

31% 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.

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### Education

**Student attendance**

1% 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>Health Concern</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coughing</td>
<td>50%</td>
</tr>
<tr>
<td>Fever</td>
<td>38%</td>
</tr>
<tr>
<td>Diarrheal diseases</td>
<td>32%</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>85%</td>
</tr>
<tr>
<td>Cost of medicine/treatment too high</td>
<td>9%</td>
</tr>
<tr>
<td>Health center not open</td>
<td>3%</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>Treat health problems</td>
<td>54%</td>
</tr>
<tr>
<td>Get regular medications</td>
<td>43%</td>
</tr>
<tr>
<td>Regular Follow-up/check-ups</td>
<td>27%</td>
</tr>
</tbody>
</table>

12.3 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>53%</td>
</tr>
<tr>
<td>Medical care</td>
<td>44%</td>
</tr>
<tr>
<td>Sanitation services</td>
<td>36%</td>
</tr>
</tbody>
</table>

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

- Face-to-face communication (e.g. from friends) 68%
- Television 31%
- Social media 1%

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

- No issues 85%
- Cost of medicine/treatment too high 9%
- Health center not open 3%

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>Treat health problems</td>
<td>54%</td>
</tr>
<tr>
<td>Get regular medications</td>
<td>43%</td>
</tr>
<tr>
<td>Regular Follow-up/check-ups</td>
<td>27%</td>
</tr>
</tbody>
</table>

12.3 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>53%</td>
</tr>
<tr>
<td>Medical care</td>
<td>44%</td>
</tr>
<tr>
<td>Sanitation services</td>
<td>36%</td>
</tr>
</tbody>
</table>

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

- Government distribution 75%
- Private Company 25%
- Purchased from market 0%

50% 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. 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 109 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

<table>
<thead>
<tr>
<th>Gender</th>
<th>60+ years</th>
<th>5–9 years</th>
<th>1–5 years</th>
<th>&lt;1 year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>4%</td>
<td>6%</td>
<td>3%</td>
<td>0%</td>
</tr>
<tr>
<td>Female</td>
<td>4%</td>
<td>6%</td>
<td>3%</td>
<td>0%</td>
</tr>
</tbody>
</table>

There was an average of 4 individuals reported per household

Head of Household
8% 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

<table>
<thead>
<tr>
<th>Dependency ratio</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Youth dependency</td>
<td>0.8</td>
</tr>
<tr>
<td>Elderly dependency</td>
<td>0.2</td>
</tr>
<tr>
<td>Age-dependency</td>
<td>1</td>
</tr>
</tbody>
</table>

% of households by current living location:
92% Own home
0% Shelter next to original home
0% Renting (non-displaced)
0% Renting (displaced)
8% Staying in another home that is not their own
0% 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
<table>
<thead>
<tr>
<th>Displaced population</th>
<th>8% of households were no longer living in their original house due to the disaster</th>
</tr>
</thead>
<tbody>
<tr>
<td>% of households no longer living on land they own by distance from their current living location to their original house:</td>
<td></td>
</tr>
<tr>
<td>100% Nearby/on site</td>
<td></td>
</tr>
<tr>
<td>0% Within 2km</td>
<td></td>
</tr>
<tr>
<td>0% Between 2km–5km</td>
<td></td>
</tr>
<tr>
<td>0% More than 5km or Don’t know</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Non-displaced population</th>
<th>6% of non-displaced households were hosting at least one displaced household in a house that they own</th>
</tr>
</thead>
<tbody>
<tr>
<td>There is an average of 4 IDP individuals in each displaced household hosted by a non-displaced household</td>
<td></td>
</tr>
<tr>
<td>1.4 average dependency ratio of displaced household size to hosting household size for non-displaced households hosting IDPs</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Movement intentions in the next 6 months</th>
<th>% of households by where they most want to move to within the next six months:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Remain in the current location</td>
<td>99%</td>
</tr>
<tr>
<td>Move to a new location</td>
<td>1%</td>
</tr>
<tr>
<td>Don’t know</td>
<td>0%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>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:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. NA</td>
</tr>
<tr>
<td>2. NA</td>
</tr>
<tr>
<td>3. NA</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Disabilities, Elderly, Minorities</th>
<th>0% of households contained at least one member with a self-reported physical or mental disability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Child Protection</td>
<td>0% of households contained at least one child that was separated from their usual caregiver</td>
</tr>
</tbody>
</table>

| Psychosocial Support | 23% of households reported having at least one member experiencing emotional distress from the disaster |

<table>
<thead>
<tr>
<th>Shelter conditions</th>
<th>% of households by type of shelter they are currently living in at the time of data collection:</th>
</tr>
</thead>
<tbody>
<tr>
<td>100% House</td>
<td></td>
</tr>
<tr>
<td>0% Apartment</td>
<td></td>
</tr>
<tr>
<td>0% Transitional shelter (individual)</td>
<td></td>
</tr>
<tr>
<td>0% Makeshift Shelter</td>
<td></td>
</tr>
<tr>
<td>0% Tent</td>
<td></td>
</tr>
<tr>
<td>0% Don’t know</td>
<td></td>
</tr>
<tr>
<td>0% Other</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>29% of households reported that their original shelter was either destroyed or damaged by the disaster</th>
</tr>
</thead>
<tbody>
<tr>
<td>% of households by state of tenure for house at the time of data collection:</td>
</tr>
<tr>
<td>63% Household owns the land</td>
</tr>
<tr>
<td>1% Written agreement (still valid)</td>
</tr>
<tr>
<td>0% Written agreement (expired)</td>
</tr>
<tr>
<td>35% Verbal/No agreement</td>
</tr>
<tr>
<td>1% Don’t know</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Preferred Shelter Assistance</th>
<th>38% of households reported that they would prefer to rebuild or repair their original home in the next 6 months</th>
</tr>
</thead>
</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:

1. None (41%)
2. Shelter building materials (37%)
3. Assistance to build/repair shelter (22%)

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

1. Cooking fuel (46%)
2. Cooking utensils/kitchen set; (43%)
3. Mattresses/Sleeping mats (32%)

Hygiene practices

- 77% of households have water available for hand washing
- 94% of households have soap available for hand washing

Sanitation conditions

- 85% of households have a household latrine/toilet
- 12% of households have a communal latrine/toilet
- 2% of households have open defecation
- 1% of households don’t know

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

Household and communal latrine conditions

- 84% of households with communal latrines reported their toilet had adequate lighting
- 3% 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

- 39% of households acquired most of their drinking water from piped water
- 34% acquired most of their drinking water from public taps
- 8% acquired most of their drinking water from protected wells/springs
- 13% acquired most of their drinking water from bottled water
- 6% acquired most of their drinking water from unprotected sources
- 0% acquired most of their drinking water from water tanks/trucks

- 98% of households reported drinking water that had been treated and was safe to drink
- 94% of households reported having enough water to meet their total needs for drinking, cooking, bathing, and washing

Sanitation conditions

- 84% of households with communal latrines reported their toilet had adequate lighting
- 3% 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

Economy

Occupation and employment

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

**Before Disaster January 2019**

1. Agricultural (79%)
2. Small business owner (6%)
3. Teacher, lawyer, engineer (4%)

**January 2019**

1. Agricultural (79%)
2. Small business owner (6%)
3. Teacher, lawyer, engineer (4%)

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 (50%)
2. Fear of school collapsing (33%)
3. School fees too expensive (17%)

Condition of school facilities

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

- Good condition (58%)
- Lightly damaged (15%)
- Moderately damaged (20%)
- Severe damage (1%)
- Don’t know (6%)
- Other (0%)

Food Security

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

- Food Consumption Score:
  - 93% Acceptable
  - 6% Borderline
  - 1% Poor

- Average rCSI score: 1.3

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

- Purchased with own cash: 99%
- Purchased with cash assistance: 1%
- Don’t know: 0%

Health

Immunization

12% of households reported having children in the household that were not immunized for measles, mumps, and rubella (MMR).

Illness and injury

20% 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

6% 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:

<table>
<thead>
<tr>
<th>Concern</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fever</td>
<td>50%</td>
</tr>
<tr>
<td>Coughing</td>
<td>46%</td>
</tr>
<tr>
<td>Diarrheal diseases</td>
<td>36%</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:

- No issues: 59%
- Cost of medicine/treatment too high: 18%
- No medicine/treatment available: 9%

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

- Treat health problems: 57%
- Get regular medications: 54%
- None: 24%

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

<table>
<thead>
<tr>
<th>Need</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food</td>
<td>70%</td>
</tr>
<tr>
<td>Water</td>
<td>43%</td>
</tr>
<tr>
<td>Medical care</td>
<td>28%</td>
</tr>
</tbody>
</table>

### Communication with Communities

#### Information Needs

- Livelihoods: 39%
- Humanitarian assistance: 21%
- Healthcare: 15%

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.
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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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**Demographics**

<table>
<thead>
<tr>
<th>Household composition by gender and age</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>Female</td>
</tr>
<tr>
<td>2%</td>
<td>27%</td>
</tr>
<tr>
<td>60+ years</td>
<td>18–59 years</td>
</tr>
<tr>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>&lt;1 year</td>
<td>1–5 years</td>
</tr>
</tbody>
</table>

There was an average of 4 individuals reported per household.

**Head of Household**

- 4% of heads of households were female
- 8% of heads of households were elderly
- 43 average age of the head of household in years

**Dependency ratio**

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

**% of households by current living location:**

- 93% Own home
- 3% Shelter next to original home
- 0% Renting (non-displaced)
- 0% Renting (displaced)
- 2% Staying in another home that is not their own
- 2% 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 and Protection

Displaced population
7% 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:
- 100% Nearby/on site
- 0% Within 2km
- 0% Between 2km–5km
- 0% More than 5km or Don’t know

Non-displaced population
0% of non-displaced households were hosting at least one displaced household in a house that they own

There is an average of 0 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

Movement intentions in the next 6 months
% of households by where they most want to move to within the next six months:
- 98% Remain in the current location
- 1% Move into the Government Transitional Shelter
- 1% Don’t know

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

Protection of Women’s Needs
8% of households contained at least one pregnant or lactating woman

Disabilities, Elderly, Minorities
0% 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
32% 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:
- 93% House
- 0% Apartment
- 2% Transitional shelter (individual)
- 1% Makeshift Shelter
- 3% Tent
- 1% Don’t know
- 0% Other

41% 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
- 82% Written agreement (still valid)
- 0% Written agreement (expired)
- 2% Verbal/No agreement
- 0% Don’t know

Preferred Shelter Assistance
48% of households reported that they would prefer to rebuild or repair their original home in the next 6 months

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.

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. Shelter building materials 43%
2. None 42%
3. Assistance to build/repair shelter 24%

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

1. Cooking utensils/kitchen set; 47%
2. Bedding items (bedsheets, pillows); 43%
3. Cooking fuel 41%

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

- 65% Pouring device/sink faucet
- 32% Basin/bucket
- 3% No device
- 0% Don’t know

94% of households have water available for hand washing
45% of households have soap available for hand washing

Sanitation conditions
% of households by most common defecation practice:

- 72% Household latrine/toilet
- 16% Communal latrine/toilet
- 12% Open defecation
- 0% Don’t know

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

Household and communal latrine conditions

- 100% of households with communal latrines reported their toilet had adequate lighting
- 3% 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:

- 45% Piped water
- 40% Public tap
- 3% Protected well/spring
- 0% Water tank/trucking
- 0% Bottled water
- 12% Unprotected source
- 0% Don’t know

96% of households reported drinking water that had been treated and was safe to drink
92% 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):

- 84% Water source located on site
- 8% Less than 10 minutes
- 8% 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:12

<table>
<thead>
<tr>
<th>Before Disaster</th>
<th>January 2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agricultural</td>
<td>1 Agricultural</td>
</tr>
<tr>
<td>Small business owner</td>
<td>2 Small business owner</td>
</tr>
<tr>
<td>Fishing</td>
<td>3 Fishing</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 2 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 100%
2. Household displaced; school too far 0%
3. Other 0%

Condition of school facilities

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

- Good condition: 49%
- Lightly damaged: 14%
- Moderately damaged: 14%
- Severe damage: 19%
- Don't know: 4%
- Other: 0%

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 0.5

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

- Purchased with own cash: 97%
- Purchased with cash assistance: 3%
- Don't know: 0%

Health

Immunization

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

Illness and injury

28% 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: 18

1. Coughing 52%
2. Fever 42%
3. Swollen feet 29%

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 84%
- Cost of medicine/treatment too high 16%
- No medicine/treatment available 0%

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 68%
2. Get regular medications 50%
3. Regular Follow-up/check-ups 28%

Priority Needs

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

1. Food 53%
2. Water 38%
3. Medical care 36%

Communication with Communities

Information Needs

% of households by the type of information that the household reported needing the most: 19

- Livelihoods 28%
- Healthcare 26%
- Humanitarian assistance 19%

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

- Face-to-face communication (e.g. from friends) 58%
- Television 42%
- Notice board and poster 0%

Humanitarian assistance

7% 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 88%
2. Sanitation 12%
3. Water 12%

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

- PMI (Indonesian Red Cross) 50%
- NGO distribution 25%
- Religious Organization 12%

62% 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. 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 116 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

<table>
<thead>
<tr>
<th>Gender</th>
<th>26+ 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>2%</td>
<td>30%</td>
<td>9%</td>
<td>9%</td>
<td>2%</td>
<td>0%</td>
</tr>
<tr>
<td>Female</td>
<td>9%</td>
<td>6%</td>
<td>30%</td>
<td>30%</td>
<td>6%</td>
<td>0%</td>
</tr>
</tbody>
</table>

There was an average of 4 individuals reported per household.

Head of Household

1% of heads of households were female
4% of heads of households were elderly
42 average age of the head of household in years

Dependency ratio

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

% of households by current living location:

100% Own home
0% Shelter next to original home
0% Renting (non-displaced)
0% Renting (displaced)
0% Staying in another home that is not their own
0% Informal settlement
0% Other

Respondent metadata

116 Total households interviewed
41 Average age of respondent in years
34% of respondents were female
Displaced population

0% 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:

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

Non-displaced population

0% of non-displaced households were hosting at least one displaced household in a house that they own

There is an average of 0 IDP individuals in each displaced household hosted by a non-displaced household

Movement intentions in the next 6 months

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

- 100% Remain in the current location
- 0% Move to a new location
- 0% Don’t know

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. NA
2. NA
3. NA

Protection of Women’s Needs

2% of households contained at least one pregnant or lactating woman

Disabilities, Elderly, Minorities

0% of households contained at least one member with a self-reported physical or mental disability

Child Protection

0% 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:

- 100% House
- 0% Apartment
- 0% Transitional shelter (individual)
- 0% Makeshift Shelter
- 0% Tent
- 0% Don’t know
- 0% Other

14% 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
- 83% Written agreement (still valid)
- 1% Written agreement (expired)
- 0% Verbal/No agreement
- 0% Don’t know

Preferred Shelter Assistance

20% of households reported that they would prefer to rebuild or repair their original home in the next 6 months

Original home was 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. None 68%  
2. Shelter building materials 28%  
3. Tools for construction 10%

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

1. None of the above 45%  
2. Cooking fuel 33%  
3. Cooking utensils/kitchen set 29%

Hygiene practices

% of households by location used for hand washing:

- 75% Pouring device/sink faucet
- 22% Basin/bucket
- 3% No device
- 0% Don’t know

99% of households have water available for hand washing
58% of households have soap available for hand washing

Sanitation conditions

% of households by most common defecation practice:

- 95% Household latrine/toilet
- 3% Communal latrine/toilet
- 2% Open defecation
- 0% Don’t know

There is an average of 5 households reported to be sharing each communal latrine 11

Household and communal latrine conditions

100% of households with communal latrines reported their toilet had adequate lighting
3% 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

Before Disaster January 2019

- 45% Agricultural 1
- 34% Small business owner 2
- 8% Government job 3

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.

90% of households reported drinking water that had been treated and was safe to drink
97% 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):

- 98% Water source located on site
- 2% Less than 10 minutes
- 0% 10–20 minutes
- 0% More than 20 minutes
- 0% Don’t know

Access to Water

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

- 57% Piped water
- 36% Public tap
- 4% Protected well/spring
- 0% Water tank/trucking
- 1% Bottled water
- 2% Unprotected source
- 0% Don’t know

Water, Sanitation and Hygiene
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:

- 52% Good condition
- 20% Lightly damaged
- 21% Moderately damaged
- 2% Severe damage
- 5% Don’t know
- 0% Other

There is an average reported loss of 0% of household income due to the disaster.

Food Security

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

Food Consumption Score 95% Acceptable
5% Borderline
0% Poor

average rCSI score 0.2

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

- Purchased with own cash 100%
- Gift from family or friends 0%
- Purchased on credit (debt) 0%

Health

Immunization

0% of households reported having children in the household that were not immunized for measles, mumps, and rubella (MMR).

Illness and injury

14% 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

0% 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).
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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 50%  
2. Swollen feet 25%  
3. Diarrheal diseases 19%  

Main barriers to accessing healthcare reported by households who had needed to access medical treatment the 30 days prior to data collection:  
- No issues 69%  
- Cost of medicine/treatment too high 25%  
- Patient cannot physically access treatment 6%  

Main reasons (if any) that households have had to access health services in the 30 days prior to data collection:  
1. Treat health problems 54%  
2. Get regular medications 48%  
3. Regular Follow-up/check-ups 34%  

% of households by most preferred source from which they would like to receive new information:  
- Face-to-face communication (e.g. from friends) 55%  
- Television 43%  
- Social media 1%  

Humanitarian assistance  
0% 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. NA 0%  
2. NA 0%  
3. NA 0%  

% of households by most common reported source of aid:  
NA 0%  
NA 0%  
NA 0%  

0% 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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