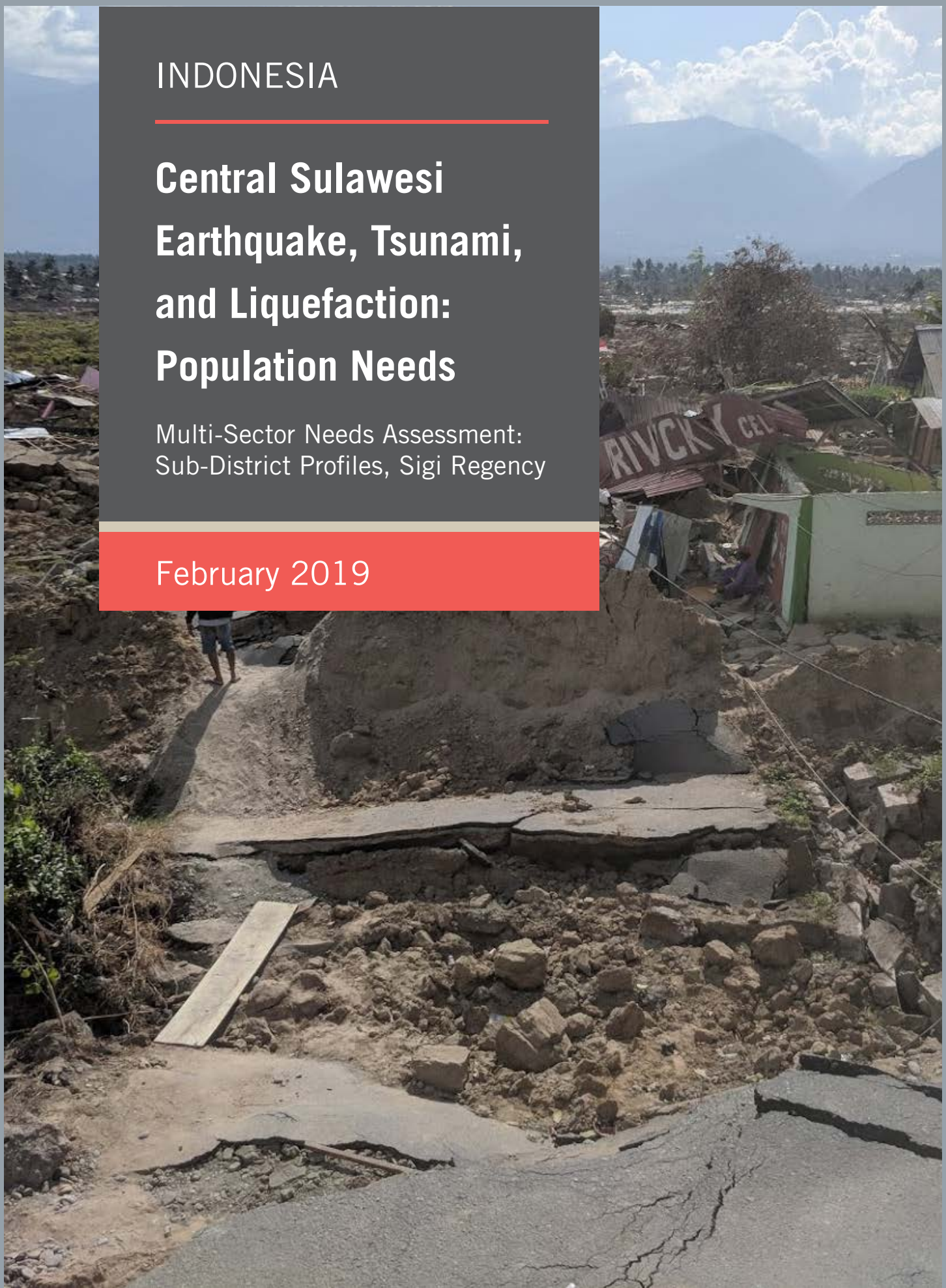
INDONESIA

Central Sulawesi Earthquake, Tsunami, and Liquefaction: Population Needs

Multi-Sector Needs Assessment:
Sub-District Profiles, Sigi Regency

February 2019



Funded by European Union Humanitarian Aid
KlasNas PP
KEMENTERIAN SOSIAL
REPUBLIK INDONESIA
unicef for every child
UNIVERSITAS MUHAMMADIYAH PALU
MUHAMMADIYAH UNIVERSITY OF PALU
HUMANITARIAN FORUM INDONESIA
REACH Informing more effective humanitarian action

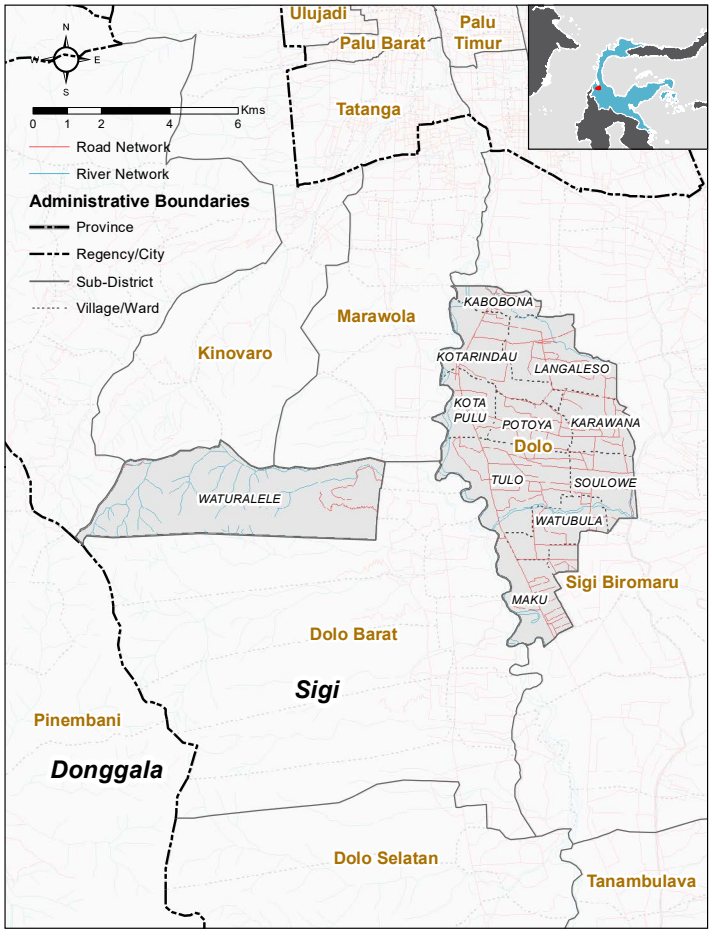
Multi-Sector Needs Assessment
Central Sulawesi Province
Sigi Regency, Dolo Sub-District

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 98 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.



Respondent metadata[3]

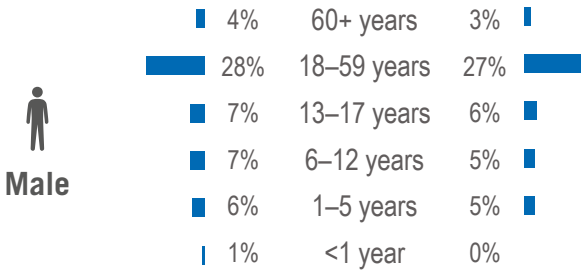
98 Total households interviewed

44 Average age of respondent in years

29% of respondents were female

Demographics

Household composition by gender and age



There was an average of **5** individuals reported per household

Head of Household

8% of heads of households were female

16% of heads of households were elderly

45 average age of the head of household in years

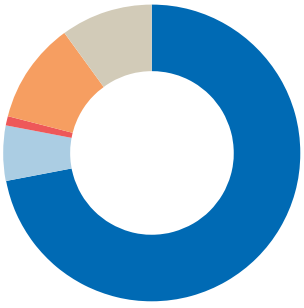
Dependency ratio[4]

0.8 average youth dependency ratio

0.2 average elderly dependency ratio

0.9 average age-dependency ratio

% of households by current living location:[5]



72% Own home

6% Shelter next to original home

0% Renting (non-displaced)

1% Renting (displaced)

11% Staying in another home that is not their own

10% Informal settlement

0% Other

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

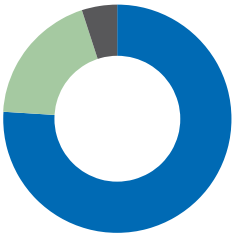
Funded by European Union Humanitarian Aid
unicef for every child
UNIVERSITAS MUHAMMADIYAH PALU
MUHAMMADIYAH UNIVERSITY OF PALU
HUMANITARIAN FORUM INDONESIA
REACH Informing more effective humanitarian action

Displacement and Protection

Displaced population[5]

28% 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:



- **76%** Nearby/on site
- **19%** Within 2km
- **0%** Between 2km–5km
- **5%** More than 5km or Don't know

Non-displaced population[5]

9% 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[6]

Movement intentions in the next 6 months

% of households by where they most want to move to within the next six months:[7]

Remain in the current location	87%
Move into the Government Transitional Shelter	6%
Move to a new location	5%

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:[8]

1. House destroyed/ severely damaged — 71%
2. Heavy damage to house — 54%
3. Lack of livelihood opportunities — 38%

Protection of Women's Needs

17% 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.

Disabilities, Elderly, Minorities

4% 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

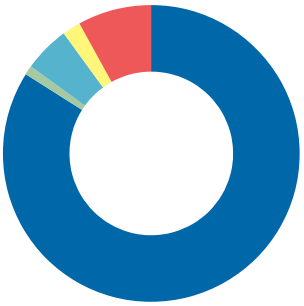
Psychosocial Support

46% of households reported having at least one member experiencing emotional distress from the disaster

Shelter

Shelter conditions

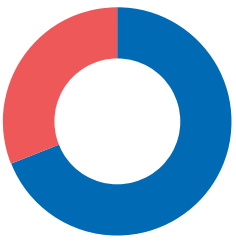
% of households by type of shelter they are currently living in at the time of data collection:



- **84%** House
- **1%** Apartment
- **5%** Transitional shelter (individual)
- **2%** Makeshift Shelter
- **8%** Tent
- **0%** Don't know
- **0%** Other

79% 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:



- **69%** Household owns the land
- **0%** Written agreement (still valid)
- **0%** Written agreement (expired)
- **31%** Verbal/no agreement[9]
- **0%** Don't know

Preferred Shelter Assistance

90% 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.

Funded by European Union Humanitarian Aid
unicef for every child
UNIVERSITAS MUHAMMADIYAH PALU
MUHAMMADIYAH UNIVERSITY OF PALU
HUMANITARIAN FORUM INDONESIA
REACH Informing more effective humanitarian action

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 — 55%
3. Provide water to shelter — 12%

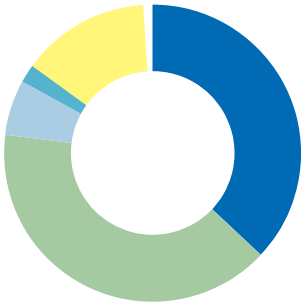
Top 3 most needed Non-Food Items (NFIs):[10]

1. Bedding items (bedsheets, pillows); — 59%
2. Cooking utensils/kitchen set; — 57%
3. Blankets — 55%

Water, Sanitation and Hygiene

Access to Water

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

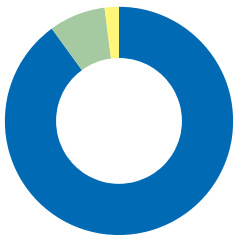


- 37% Piped water
- 40% Public tap
- 6% Protected well/spring
- 2% Water tank/trucking
- 14% Bottled water
- 0% Unprotected source
- 0% Don't know

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

93% of households reported having enough water to meet their total needs for drinking, cooking, bathing, and washing

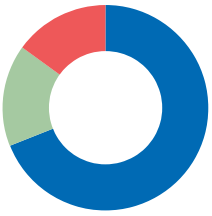
% of households by reported amount of time it takes to walk to main water source, fetch water, and return (including queuing at the water source):



- 90% Water source located on site
- 8% Less than 10 minutes
- 2% 10–20 minutes
- 0% More than 20 minutes
- 0% Don't know

Hygiene practices

% of households by location used for hand washing:



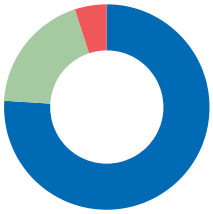
- 69% Pouring device/sink faucet
- 16% Basin/bucket
- 15% No device
- 0% Don't know

100% of households have water available for hand washing

81% of households have soap available for hand washing

Sanitation conditions

% of households by most common defecation practice:



- 76% Household latrine/toilet
- 19% Communal latrine/toilet
- 5% Open defecation
- 0% Don't know

There is an average of **14** 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

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:[12]

	Before Disaster		January 2019	
1	31% Agricultural	1	Vocational profession	19%
2	19% Vocational profession	2	Unemployed	18%
3	13% Small business owner	3	Agricultural	17%

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.

Funded by European Union Humanitarian Aid
unicef for every child
UNIVERSITAS MUHAMMADIYAH PALU
MUHAMMADIYAH UNIVERSITY OF PALU
HUMANITARIAN FORUM INDONESIA
REACH Informing more effective humanitarian action

% of households reporting that the household main income was unemployment, before and after the disaster:

Before Disaster		January 2019
5%	are unemployed	18%

41% of households had at least one working-age household member that is not working

Main reported barriers to finding work:[13]

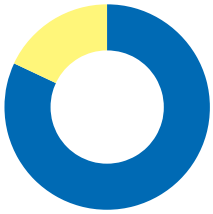
Available jobs are too far away	42%
Disaster destroyed cultivation land for planting	30%
Disaster destroyed business/job opportunities	20%

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]



82%	Acceptable
18%	Borderline
0%	Poor

average rCSI score[15]

1

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

Purchased with own cash	97%
Gift from family or friends)	2%
Received in-kind for labor or other items	1%

Education

Student attendance

0% of households with children reported having school-aged children who were not attending school following the disaster

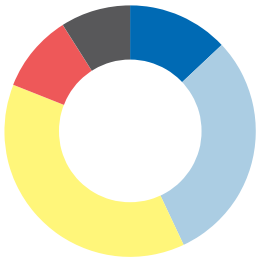
Among households where children were not attending school, there was an average of **0** child(ren) reported to not be attending school

Top 3 reported reasons why school-aged children were not attending school by households with children not attending school:[19]

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:



13%	Good condition
30%	Lightly damaged
38%	Moderately damaged
10%	Severe damage
9%	Don't know
0%	Other

Health

Immunization

8% of households reported having children in the household that were not immunized for measles, mumps, and rhubella (MMR).

Illness and injury

34% 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.

Funded by European Union Humanitarian Aid
unicef for every child
UNIVERSITAS MUHAMMADIYAH PALU
MUHAMMADIYAH UNIVERSITY OF PALU
HUMANITARIAN FORUM INDONESIA
REACH Informing more effective humanitarian action

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	52%
2	Coughing	42%
3	Other health issue	18%

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	85%
No medicine/treatment available	6%
No information where health facilities are	6%

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

1	None	60%
2	Get regular medications	26%
3	Treat health problems	18%

1.2.3 Priority Needs

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

1	Food	85%
2	Water	36%
3	Other NFIs	33%

Communication with Communities

Information Needs

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

Livelihoods	44%
Status of housing	31%
Humanitarian assistance	9%

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

Face-to-face communication (e.g. from friends)	52%
Television	41%
Social media	2%

Humanitarian assistance

57% 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	93%
2	Water	54%
3	Sanitation	32%

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

NGO distribution	32%
Private Company	30%
Government distribution	23%

82% 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.

Funded by European Union Humanitarian Aid
unicef for every child
UNIVERSITAS MUHAMMADIYAH PALU
MUHAMMADIYAH UNIVERSITY OF PALU
HUMANITARIAN FORUM INDONESIA
REACH Informing more effective humanitarian action

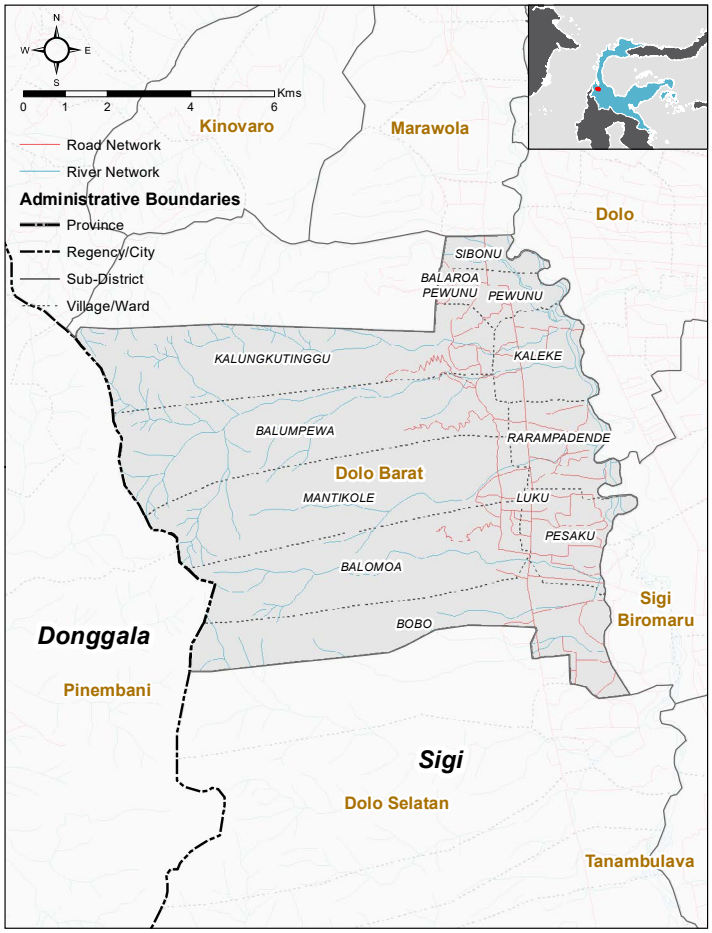
Multi-Sector Needs Assessment
Central Sulawesi Province
Sigi Regency, Dolo Barat Sub-District

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.



Respondent metadata[3]

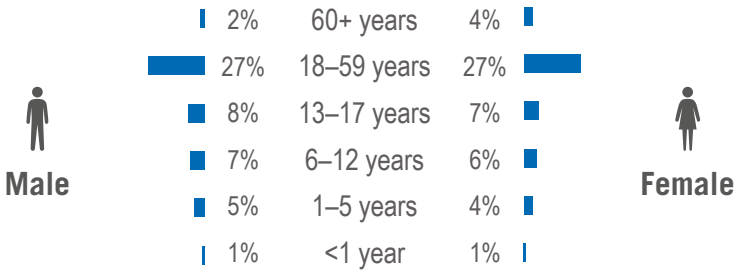
110 Total households interviewed

46 Average age of respondent in years

41% of respondents were female

Demographics

Household composition by gender and age



There was an average of **4** individuals reported per household

Head of Household

14% of heads of households were female

12% of heads of households were elderly

48 average age of the head of household in years

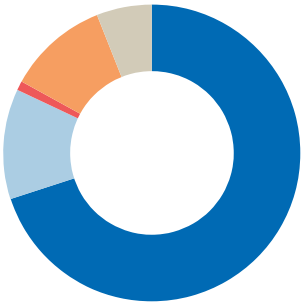
Dependency ratio[4]

0.8 average youth dependency ratio

0.2 average elderly dependency ratio

1 average age-dependency ratio

% of households by current living location:[5]



70% Own home

12% Shelter next to original home

0% Renting (non-displaced)

1% Renting (displaced)

11% Staying in another home that is not their own

6% Informal settlement

0% Other

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

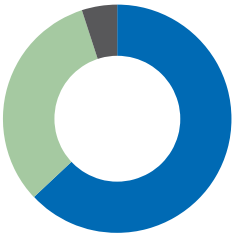
Funded by European Union Humanitarian Aid
unicef for every child
UNIVERSITAS MUHAMMADIYAH PALU
MUHAMMADIYAH UNIVERSITY OF PALU
HUMANITARIAN FORUM INDONESIA
REACH Informing more effective humanitarian action

Displacement and Protection

Displaced population[5]

30% 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:



- **63%** Nearby/on site
- **32%** Within 2km
- **0%** Between 2km–5km
- **5%** More than 5km or Don't know

Non-displaced population[5]

9% 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

0.6 average dependency ratio of displaced household size to hosting household size for non-displaced households hosting IDPs[6]

Movement intentions in the next 6 months

% of households by where they most want to move to within the next six months:[7]

Remain in the current location	86%
Move into the Government Transitional Shelter	9%
Return back to original home	3%

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:[8]

1	Heavy damage to house	60%
2	House destroyed/ severely damaged	43%
3	Basic services are not available	27%

Protection of Women's Needs

17% 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.

Disabilities, Elderly, Minorities

4% 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

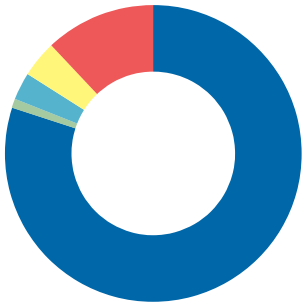
Psychosocial Support

38% of households reported having at least one member experiencing emotional distress from the disaster

Shelter

Shelter conditions

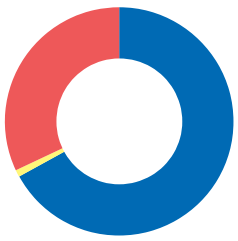
% of households by type of shelter they are currently living in at the time of data collection:



- **80%** House
- **1%** Apartment
- **3%** Transitional shelter (individual)
- **4%** Makeshift Shelter
- **12%** Tent
- **0%** Don't know
- **0%** Other

86% 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:



- **67%** Household owns the land
- **0%** Written agreement (still valid)
- **1%** Written agreement (expired)
- **32%** Verbal/no agreement[9]
- **0%** Don't know

Preferred Shelter Assistance

91% 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.

Funded by European Union Humanitarian Aid
unicef for every child
UNIVERSITAS MUHAMMADIYAH PALU
MUHAMMADIYAH UNIVERSITY OF PALU
HUMANITARIAN FORUM INDONESIA
REACH Informing more effective humanitarian action

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 — 66%
2. Shelter building materials — 44%
3. Space in Transitional Shelter — 13%

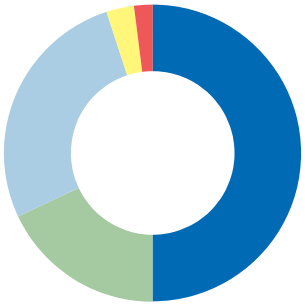
Top 3 most needed Non-Food Items (NFIs):[10]

1. Cooking utensils/kitchen set; — 64%
2. Bedding items (bedsheets, pillows); — 58%
3. Mattresses/Sleeping mats — 50%

Water, Sanitation and Hygiene

Access to Water

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

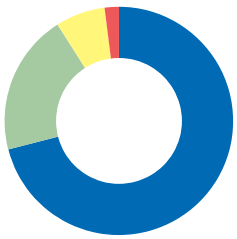


50%	Piped water
18%	Public tap
27%	Protected well/spring
0%	Water tank/trucking
3%	Bottled water
2%	Unprotected source
0%	Don't know

99% 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

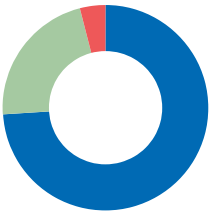
% of households by reported amount of time it takes to walk to main water source, fetch water, and return (including queuing at the water source):



71%	Water source located on site
20%	Less than 10 minutes
7%	10–20 minutes
2%	More than 20 minutes
0%	Don't know

Hygiene practices

% of households by location used for hand washing:



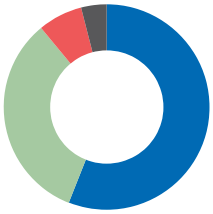
74%	Pouring device/sink faucet
22%	Basin/bucket
4%	No device
0%	Don't know

98% of households have water available for hand washing

74% of households have soap available for hand washing

Sanitation conditions

% of households by most common defecation practice:



56%	Household latrine/toilet
33%	Communal latrine/toilet
7%	Open defecation
4%	Don't know

There is an average of **9** households reported to be sharing each communal latrine[11]

Household and communal latrine conditions

76% 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

76% 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		
42%	Agricultural	1	Agricultural	37%
22%	Construction	2	Construction	20%
7%	Vocational profession	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.

Funded by European Union Humanitarian Aid
unicef for every child
UNIVERSITAS MUHAMMADIYAH PALU
MUHAMMADIYAH UNIVERSITY OF PALU
HUMANITARIAN FORUM INDONESIA
REACH Informing more effective humanitarian action

% of households reporting that the household main income was unemployment, before and after the disaster:

Before Disaster		January 2019
6%	are unemployed	14%

32% of households had at least one working-age household member that is not working

Main reported barriers to finding work:[13]

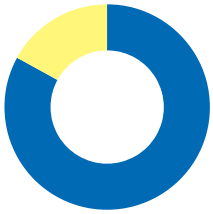
Available jobs are too far away	54%
Disaster destroyed cultivation land for planting	23%
Disaster destroyed business/job opportunities	17%

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]



83%	Acceptable
17%	Borderline
0%	Poor

average rCSI score[15]

0

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

Purchased with own cash	96%
Gift from family or friends)	3%
Own production (hunting, fishing, farming)	1%

Education

Student attendance

0% of households with children reported having school-aged children who were not attending school following the disaster

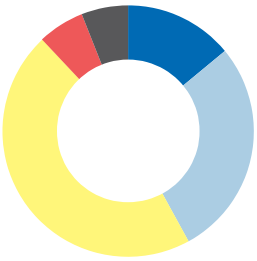
Among households where children were not attending school, there was an average of **0** child(ren) reported to not be attending school

Top 3 reported reasons why school-aged children were not attending school by households with children not attending school:[19]

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:



14%	Good condition
28%	Lightly damaged
46%	Moderately damaged
6%	Severe damage
6%	Don't know
0%	Other

Health

Immunization

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

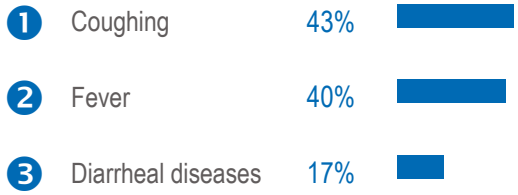
Illness and injury

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

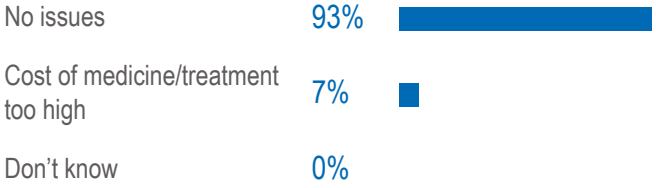
13. Due to the sensitivity over asking about monthly income, respondents were asked what range their monthly income fell within. The upper bound of the range was used, and current income was divided by previous income before being averaged.
14. FCS is a measure of food security that looks at how often 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.

Funded by European Union Humanitarian Aid
unicef for every child
UNIVERSITAS MUHAMMADIYAH PALU
MUHAMMADIYAH UNIVERSITY OF PALU
HUMANITARIAN FORUM INDONESIA
REACH Informing more effective humanitarian action

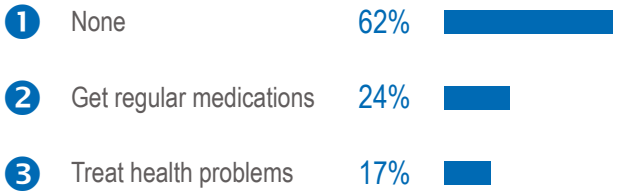
Top 3 types of health concerns reported by households with a member who had suffered from health issues in the 30 days prior to data collection:[18]



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

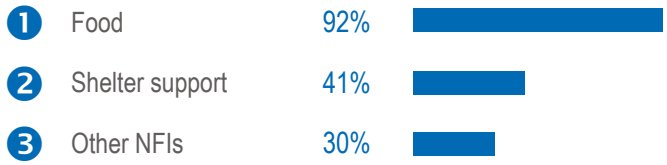


Main reasons (if any) that households have had to access health services in the 30 days prior to data collection:[20]



1.2.3 Priority Needs

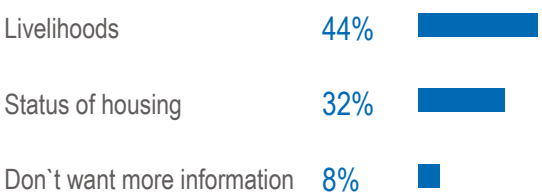
Top 3 most important priority needs as reported by households:[20]



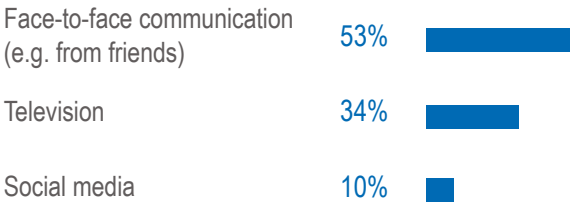
Communication with Communities

Information Needs

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



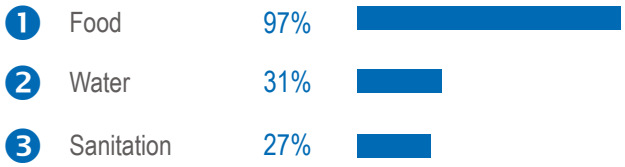
% of households by most preferred source from which they would like to receive new information:[19]



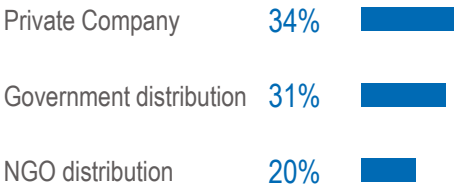
Humanitarian assistance

58% 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]



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



78% 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.

Funded by European Union Humanitarian Aid
unicef for every child
UNIVERSITAS MUHAMMADIYAH PALU
MUHAMMADIYAH UNIVERSITY OF PALU
HUMANITARIAN FORUM INDONESIA
REACH Informing more effective humanitarian action

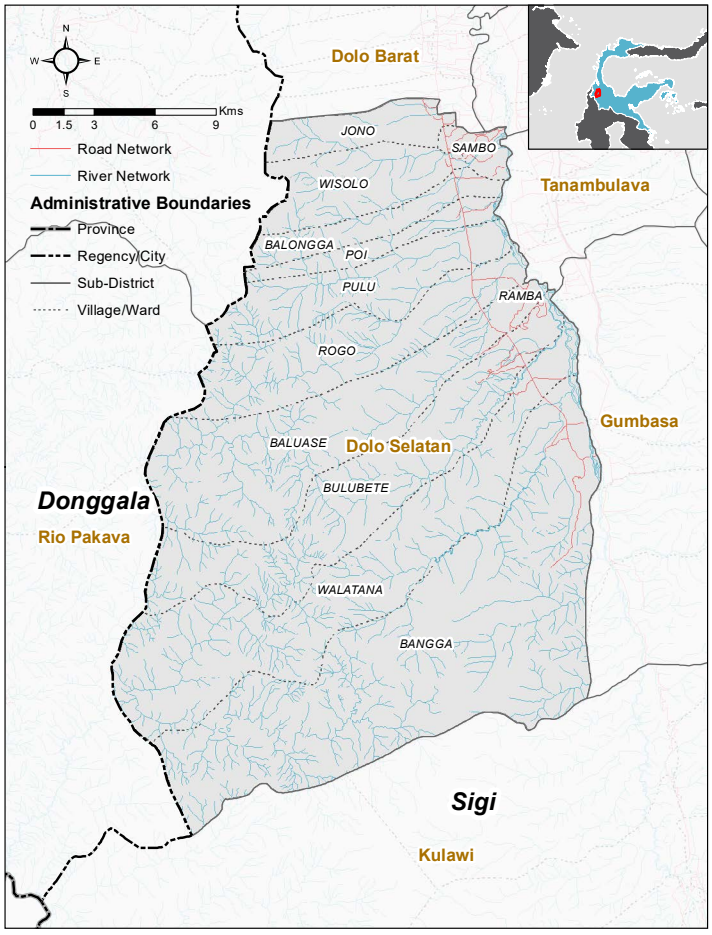
Multi-Sector Needs Assessment
Central Sulawesi Province
Sigi Regency, Dolo Selatan Sub-District

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 120 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.

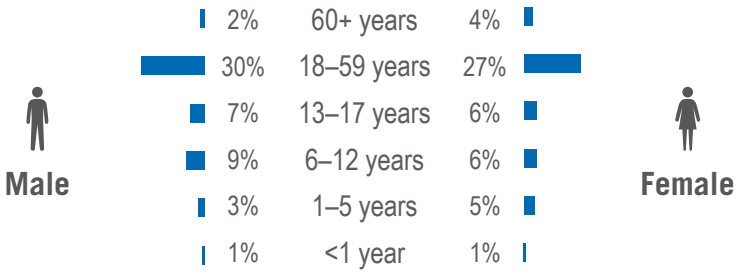


Respondent metadata[3]

120	Total households interviewed
42	Average age of respondent in years
37%	of respondents were female

Demographics

Household composition by gender and age



There was an average of **5** individuals reported per household

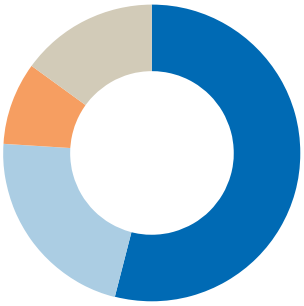
Head of Household

10%	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[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]



54%	Own home
22%	Shelter next to original home
0%	Renting (non-displaced)
0%	Renting (displaced)
9%	Staying in another home that is not their own
15%	Informal settlement
0%	Other

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

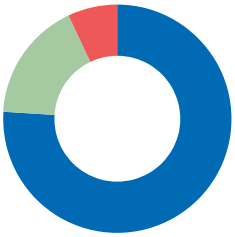
Funded by European Union Humanitarian Aid
unicef for every child
UNIVERSITAS MUHAMMADIYAH PALU
MUHAMMADIYAH UNIVERSITY OF PALU
HUMANITARIAN FORUM INDONESIA
REACH Informing more effective humanitarian action

Displacement and Protection

Displaced population[5]

46% 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:



- **76%** Nearby/on site
- **17%** Within 2km
- **7%** Between 2km–5km
- **0%** More than 5km or Don't know

Non-displaced population[5]

9% 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[6]

Movement intentions in the next 6 months

% of households by where they most want to move to within the next six months:[7]

Remain in the current location	82%
Move into the Government Transitional Shelter	10%
Don't know	5%

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:[8]

1 House destroyed/ severely damaged	71%
2 Mild damage to house	40%
3 Heavy damage to house	27%

Protection of Women's Needs

14% 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.

Disabilities, Elderly, Minorities

2% 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

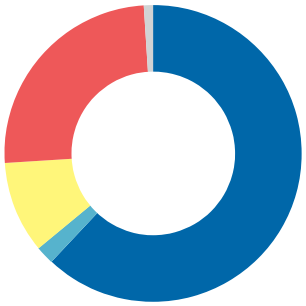
Psychosocial Support

52% of households reported having at least one member experiencing emotional distress from the disaster

Shelter

Shelter conditions

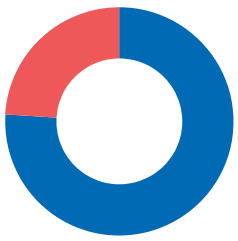
% of households by type of shelter they are currently living in at the time of data collection:



- **62%** House
- **0%** Apartment
- **2%** Transitional shelter (individual)
- **10%** Makeshift Shelter
- **25%** Tent
- **0%** Don't know
- **1%** Other

98% 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:



- **76%** Household owns the land
- **0%** Written agreement (still valid)
- **0%** Written agreement (expired)
- **24%** Verbal/no agreement[9]
- **0%** Don't know

Preferred Shelter Assistance

99% 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.

Funded by European Union Humanitarian Aid
unicef for every child
UNIVERSITAS MUHAMMADIYAH PALU
MUHAMMADIYAH UNIVERSITY OF PALU
HUMANITARIAN FORUM INDONESIA
REACH Informing more effective humanitarian action

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 — 79%
2. Shelter building materials — 37%
3. Provide water to shelter — 23%

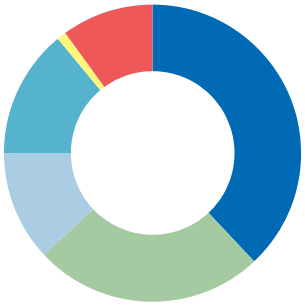
Top 3 most needed Non-Food Items (NFIs):[10]

1. Cooking utensils/kitchen set; — 65%
2. Mattresses/Sleeping mats — 52%
3. Bedding items (bedsheets, pillows); — 51%

Water, Sanitation and Hygiene

Access to Water

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

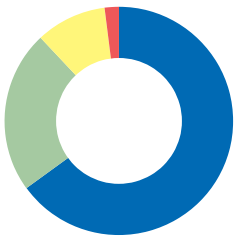


38%	Piped water
25%	Public tap
12%	Protected well/spring
14%	Water tank/trucking
1%	Bottled water
10%	Unprotected source
0%	Don't know

98% 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

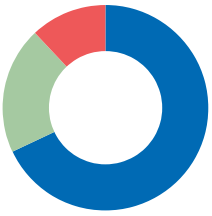
% of households by reported amount of time it takes to walk to main water source, fetch water, and return (including queuing at the water source):



65%	Water source located on site
23%	Less than 10 minutes
10%	10–20 minutes
2%	More than 20 minutes
0%	Don't know

Hygiene practices

% of households by location used for hand washing:



68%	Pouring device/sink faucet
20%	Basin/bucket
12%	No device
0%	Don't know

99% of households have water available for hand washing

79% of households have soap available for hand washing

Sanitation conditions

% of households by most common defecation practice:

47%	Household latrine/toilet
33%	Communal latrine/toilet
20%	Open defecation
0%	Don't know

There is an average of **8** households reported to be sharing each communal latrine[11]

Household and communal latrine conditions

81% 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

58% 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		
59%	Agricultural	1	Agricultural	51%
12%	Construction	2	Construction	12%
5%	Teacher, lawyer, engineer	3	Unemployed	12%

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.

Funded by European Union Humanitarian Aid
unicef for every child
UNIVERSITAS MUHAMMADIYAH PALU
MUHAMMADIYAH UNIVERSITY OF PALU
HUMANITARIAN FORUM INDONESIA
REACH Informing more effective humanitarian action

% of households reporting that the household main income was unemployment, before and after the disaster:

Before Disaster		January 2019
2%	are unemployed	12%

41% of households had at least one working-age household member that is not working

Main reported barriers to finding work:[13]

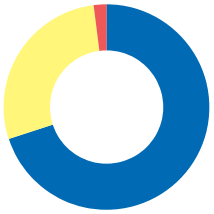
Disaster destroyed cultivation land for planting	51%
Available jobs are too far away	26%
Disaster destroyed business/job opportunities	18%

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]



70%	Acceptable
28%	Borderline
2%	Poor

average rCSI score[15]

0.5

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

Purchased with own cash	91%
Gift from family or friends)	7%
Food assistance (charity, private company)	2%

Education

Student attendance

1% of households with children reported having school-aged children who were not attending school following the disaster

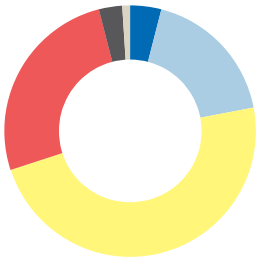
Among households where children were not attending school, there was an average of **0** child(ren) reported to not be attending school

Top 3 reported reasons why school-aged children were not attending school by households with children not attending school:[19]

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:



4%	Good condition
18%	Lightly damaged
48%	Moderately damaged
26%	Severe damage
3%	Don't know
1%	Other

Health

Immunization

6% of households reported having children in the household that were not immunized for measles, mumps, and rhubella (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

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.

Funded by European Union Humanitarian Aid
unicef for every child
UNIVERSITAS MUHAMMADIYAH PALU
MUHAMMADIYAH UNIVERSITY OF PALU
HUMANITARIAN FORUM INDONESIA
REACH Informing more effective humanitarian action

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	47%
2	Diarrheal diseases	34%
3	Coughing	34%

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	94%
Patient cannot physically access treatment	3%
Health center too far away	3%

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

1	None	55%
2	Get regular medications	32%
3	Treat health problems	14%

1.2.3 Priority Needs

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

1	Food	87%
2	Water	55%
3	Shelter support	54%

Communication with Communities

Information Needs

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

Livelihoods	45%
Status of housing	24%
Don`t want more information	12%

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

Face-to-face communication (e.g. from friends)	47%
Television	32%
Social media	18%

Humanitarian assistance

76% 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	Water	50%
3	Tarpaulin	37%

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

Private Company	35%
NGO distribution	35%
Government distribution	15%

87% 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.

Funded by European Union Humanitarian Aid
unicef for every child
UNIVERSITAS MUHAMMADIYAH PALU
MUHAMMADIYAH UNIVERSITY OF PALU
HUMANITARIAN FORUM INDONESIA
REACH Informing more effective humanitarian action

Multi-Sector Needs Assessment
Central Sulawesi Province

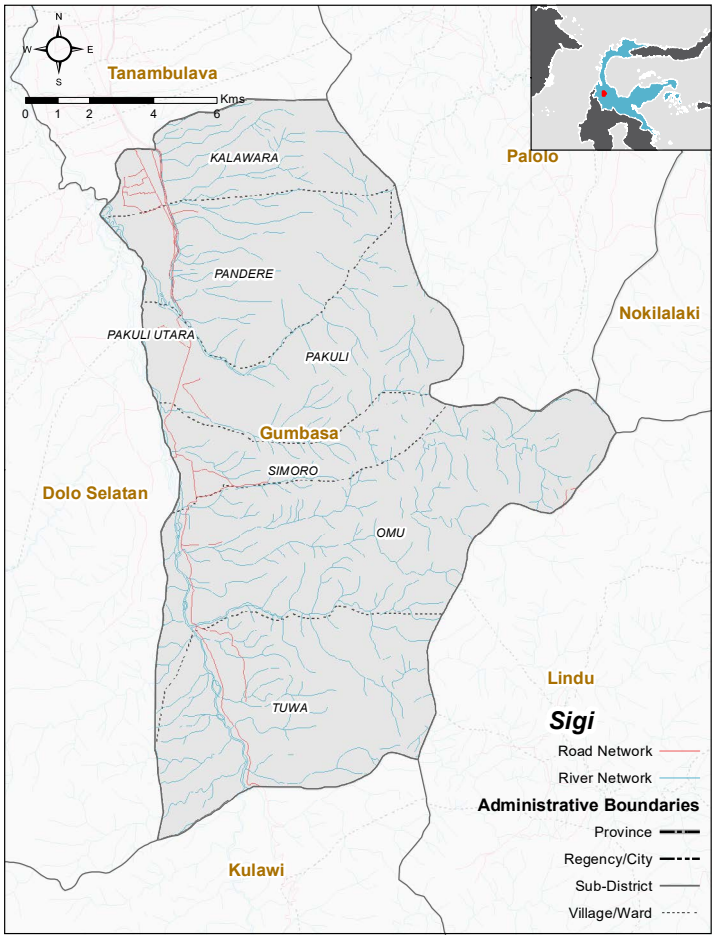
Sigi Regency, Gumbasa Sub-District

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 111 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.

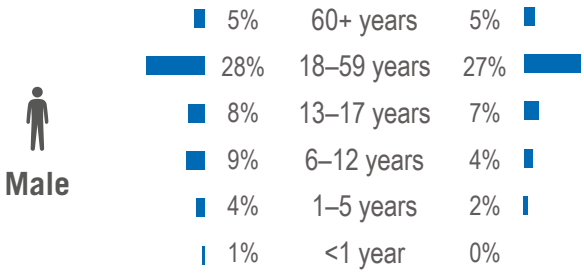


Respondent metadata[3]

111	Total households interviewed
44	Average age of respondent in years
40%	of respondents were female

Demographics

Household composition by gender and age



There was an average of **5** individuals reported per household

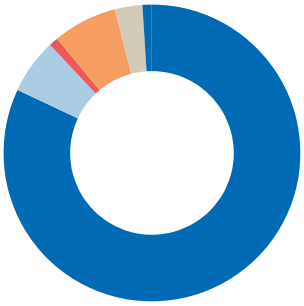
Head of Household

4%	of heads of households were female
16%	of heads of households were elderly
49	average age of the head of household in years

Dependency ratio[4]

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

% of households by current living location:[5]



82%	Own home
6%	Shelter next to original home
0%	Renting (non-displaced)
1%	Renting (displaced)
7%	Staying in another home that is not their own
3%	Informal settlement
1%	Other

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

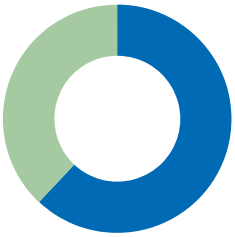
Funded by European Union Humanitarian Aid
unicef for every child
UNIVERSITAS MUHAMMADIYAH PALU
MUHAMMADIYAH UNIVERSITY OF PALU
HUMANITARIAN FORUM INDONESIA
REACH Informing more effective humanitarian action

Displacement and Protection

Displaced population[5]

18% 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:



- **62%** Nearby/on site
- **38%** Within 2km
- **0%** Between 2km–5km
- **0%** More than 5km or Don't know

Non-displaced population[5]

2% of non-displaced households were hosting at least one displaced household in a house that they own

There is an average of **6** IDP individuals in each displaced household hosted by a non-displaced household

1.2 average dependency ratio of displaced household size to hosting household size for non-displaced households hosting IDPs[6]

Movement intentions in the next 6 months

% of households by where they most want to move to within the next six months:[7]

Remain in the current location	94%
Move into the Government Transitional Shelter	4%
Return back to original home	3%

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:[8]

1. House destroyed/ severely damaged — 80%
2. Fear that house is still unsafe — 43%
3. Heavy damage to house — 29%

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.

Disabilities, Elderly, Minorities

1% 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

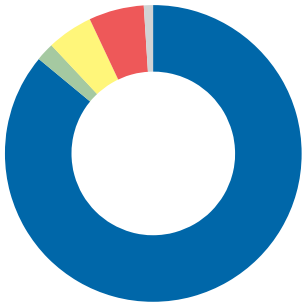
Psychosocial Support

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

Shelter

Shelter conditions

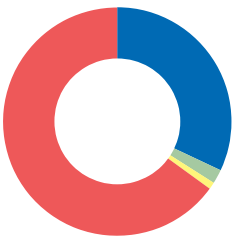
% of households by type of shelter they are currently living in at the time of data collection:



- **86%** House
- **2%** Apartment
- **0%** Transitional shelter (individual)
- **5%** Makeshift Shelter
- **6%** Tent
- **0%** Don't know
- **1%** Other

65% 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:



- **32%** Household owns the land
- **2%** Written agreement (still valid)
- **1%** Written agreement (expired)
- **65%** Verbal/no agreement[9]
- **0%** Don't know

Preferred Shelter Assistance

91% 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.

Funded by European Union Humanitarian Aid
unicef for every child
UNIVERSITAS MUHAMMADIYAH PALU
MUHAMMADIYAH UNIVERSITY OF PALU
HUMANITARIAN FORUM INDONESIA
REACH Informing more effective humanitarian action

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 — 68%
2. Shelter building materials — 65%
3. Provide water to shelter — 15%

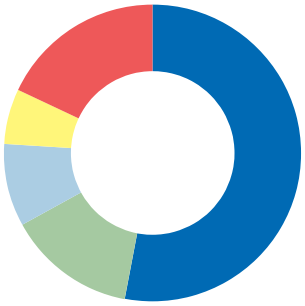
Top 3 most needed Non-Food Items (NFIs):[10]

1. Cooking utensils/kitchen set; — 72%
2. Bedding items (bedsheets, pillows); — 65%
3. Mattresses/Sleeping mats — 40%

Water, Sanitation and Hygiene

Access to Water

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

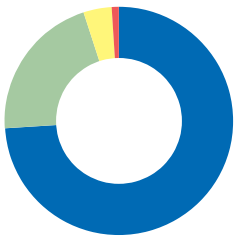


53%	Piped water
14%	Public tap
9%	Protected well/spring
0%	Water tank/trucking
6%	Bottled water
18%	Unprotected source
0%	Don't know

94% 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

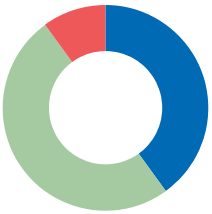
% of households by reported amount of time it takes to walk to main water source, fetch water, and return (including queuing at the water source):



74%	Water source located on site
21%	Less than 10 minutes
4%	10–20 minutes
0%	More than 20 minutes
1%	Don't know

Hygiene practices

% of households by location used for hand washing:



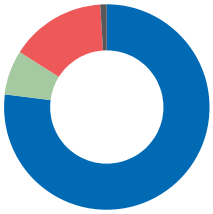
40%	Pouring device/sink faucet
50%	Basin/bucket
10%	No device
0%	Don't know

78% of households have water available for hand washing

42% of households have soap available for hand washing

Sanitation conditions

% of households by most common defecation practice:



77%	Household latrine/toilet
7%	Communal latrine/toilet
15%	Open defecation
1%	Don't know

There is an average of **6** households reported to be sharing each communal latrine[11]

Household and communal latrine conditions

88% 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

66% 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	
92%	Agricultural	1	Agricultural	88%
4%	Teacher, lawyer, engineer	2	Teacher, lawyer, engineer	4%
2%	Service industry	3	Unemployed	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.

Funded by European Union Humanitarian Aid
unicef for every child
UNIVERSITAS MUHAMMADIYAH PALU
MUHAMMADIYAH UNIVERSITY OF PALU
HUMANITARIAN FORUM INDONESIA
REACH Informing more effective humanitarian action

% of households reporting that the household main income was unemployment, before and after the disaster:

Before Disaster		January 2019
0%	are unemployed	3%

10% of households had at least one working-age household member that is not working

Main reported barriers to finding work:[13]

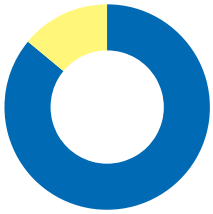
Disaster destroyed cultivation land for planting	46%
Available jobs are too far away	18%
disability	18%

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]



86%	Acceptable
14%	Borderline
0%	Poor

average rCSI score[15]

2.8

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

Purchased with own cash	99%
Purchased on credit (debt)	1%
Received in-kind for labor or other items	0%

Education

Student attendance

7% of households with children reported having school-aged children who were not attending school following the disaster

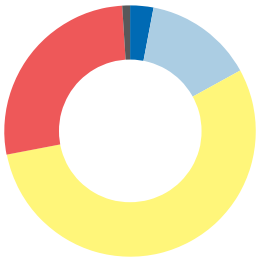
Among households where children were not attending school, there was an average of **1** child(ren) reported to not be attending school

Top 3 reported reasons why school-aged children were not attending school by households with children not attending school:[19]

1	Fear of school collapsing	67%
2	School damaged/destroyed	33%
3	Child needed to work for income	17%

Condition of school facilities

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



3%	Good condition
14%	Lightly damaged
55%	Moderately damaged
27%	Severe damage
1%	Don't know
0%	Other

Health

Immunization

7% of households reported having children in the household that were not immunized for measles, mumps, and rhubella (MMR).

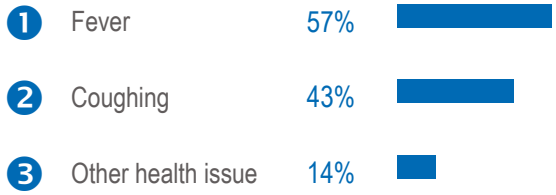
Illness and injury

33% 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

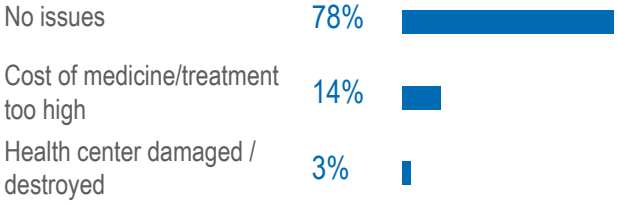
13. Due to the sensitivity over asking about monthly income, respondents were asked what range their monthly income fell within. The upper bound of the range was used, and current income was divided by previous income before being averaged.
14. FCS is a measure of food security that looks at how often 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.

Funded by European Union Humanitarian Aid
unicef for every child
UNIVERSITAS MUHAMMADIYAH PALU
MUHAMMADIYAH UNIVERSITY OF PALU
HUMANITARIAN FORUM INDONESIA
REACH Informing more effective humanitarian action

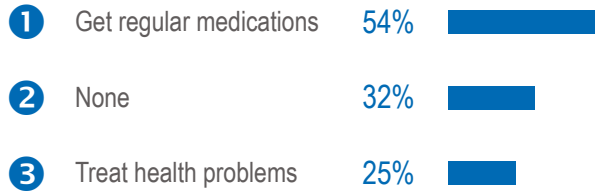
Top 3 types of health concerns reported by households with a member who had suffered from health issues in the 30 days prior to data collection:[18]



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

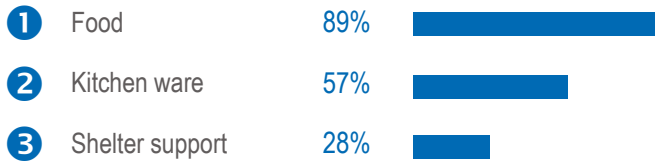


Main reasons (if any) that households have had to access health services in the 30 days prior to data collection:[20]



1.2.3 Priority Needs

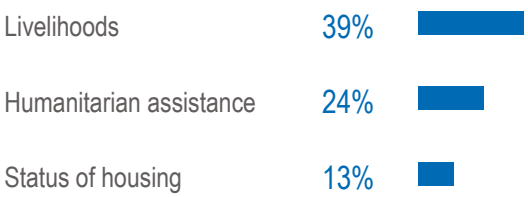
Top 3 most important priority needs as reported by households:[20]



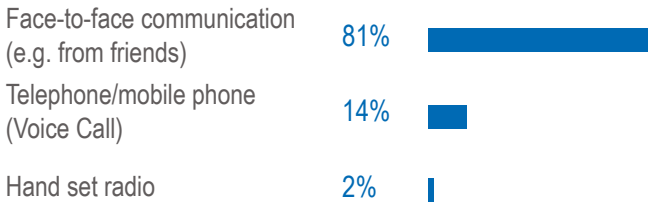
Communication with Communities

Information Needs

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



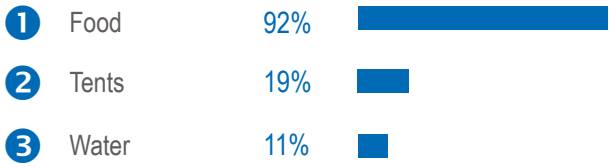
% of households by most preferred source from which they would like to receive new information:[19]



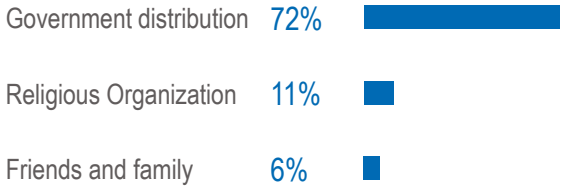
Humanitarian assistance

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:[18]



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



67% 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.

Funded by European Union Humanitarian Aid
unicef for every child
UNIVERSITAS MUHAMMADIYAH PALU
MUHAMMADIYAH UNIVERSITY OF PALU
HUMANITARIAN FORUM INDONESIA
REACH Informing more effective humanitarian action

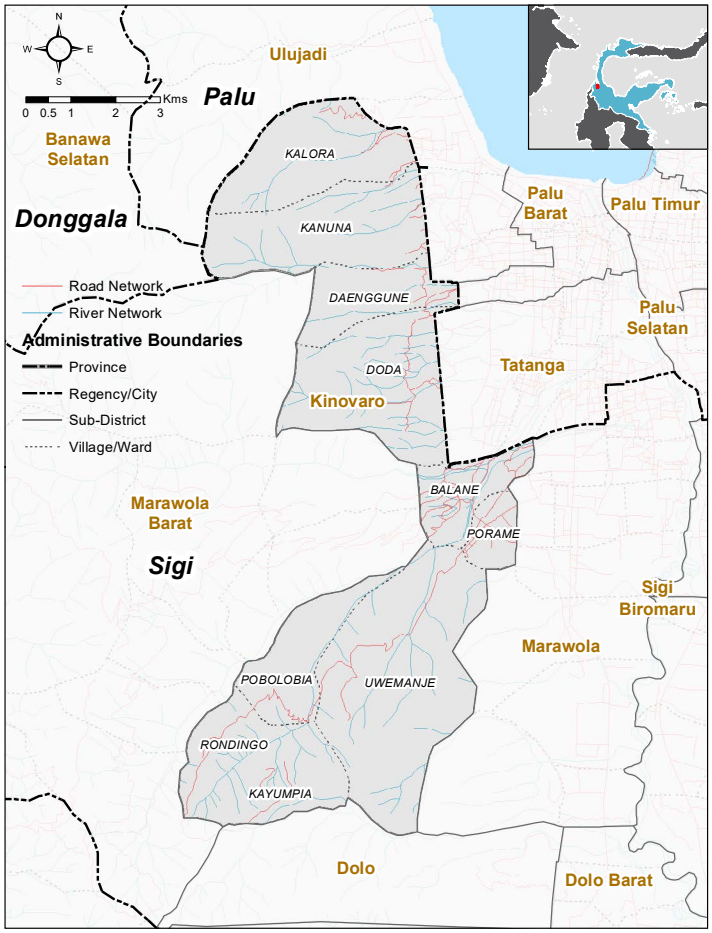
Multi-Sector Needs Assessment
Central Sulawesi Province
Sigi Regency, Kinovaro Sub-District

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 105 out of a total population of 253,926 households weresurveyed 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.



Respondent metadata[3]

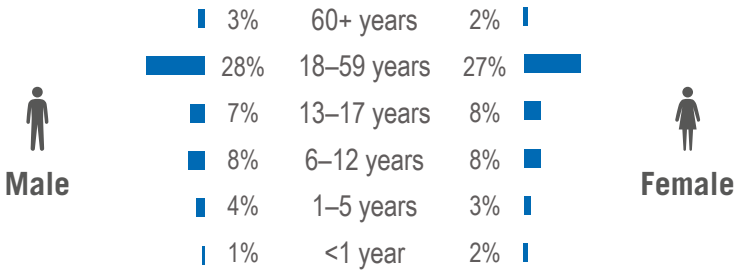
105 Total households interviewed

41 Average age of respondent in years

44% of respondents were female

Demographics

Household composition by gender and age



There was an average of **4** individuals reported per household

Head of Household

2% of heads of households were female

10% of heads of households were elderly

45 average age of the head of household in years

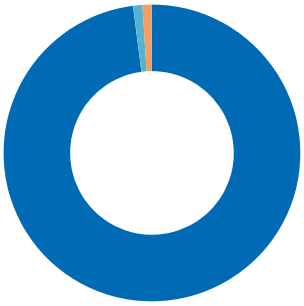
Dependency ratio[4]

0.8 average youth dependency ratio

0.1 average elderly dependency ratio

0.9 average age-dependency ratio

% of households by current living location:[5]



98% Own home

0% Shelter next to original home

1% Renting (non-displaced)

0% Renting (displaced)

1% Staying in another home that is not their own

0% Informal settlement

0% Other

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

Funded by European Union Humanitarian Aid
unicef for every child
UNIVERSITAS MUHAMMADIYAH PALU
MUHAMMADIYAH UNIVERSITY OF PALU
HUMANITARIAN FORUM INDONESIA
REACH Informing more effective humanitarian action

Displacement and Protection

Displaced population[5]

1% 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[5]

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

0 average dependency ratio of displaced household size to hosting household size for non-displaced households hosting IDPs[6]

Movement intentions in the next 6 months

% of households by where they most want to move to within the next six months:[7]

Remain in the current location	99%
Move to a new location	1%
Don't know	0%

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:[8]

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

Protection of Women's Needs

21% 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.

Disabilities, Elderly, Minorities

2% 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

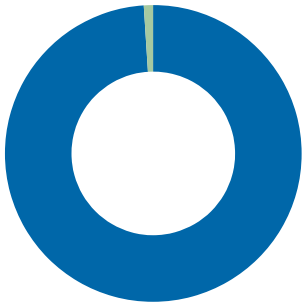
Psychosocial Support

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

Shelter

Shelter conditions

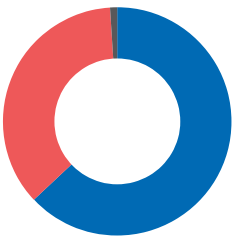
% of households by type of shelter they are currently living in at the time of data collection:



- **99%** House
- **1%** Apartment
- **0%** Transitional shelter (individual)
- **0%** Makeshift Shelter
- **0%** Tent
- **0%** Don't know
- **0%** Other

45% 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:



- **63%** Household owns the land
- **0%** Written agreement (still valid)
- **0%** Written agreement (expired)
- **36%** Verbal/no agreement[9]
- **1%** Don't know

Preferred Shelter Assistance

55% 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.

Funded by European Union Humanitarian Aid
unicef for every child
UNIVERSITAS MUHAMMADIYAH PALU
MUHAMMADIYAH UNIVERSITY OF PALU
HUMANITARIAN FORUM INDONESIA
REACH Informing more effective humanitarian action

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 — 50%
2. Shelter building materials — 41%
3. Future disaster information — 24%

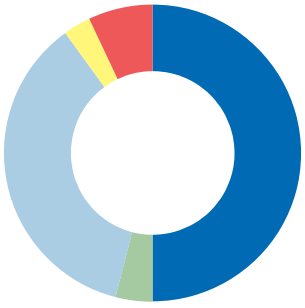
Top 3 most needed Non-Food Items (NFIs):[10]

1. Cooking utensils/kitchen set; — 70%
2. Bedding items (bedsheets, pillows); — 66%
3. Mattresses/Sleeping mats — 38%

Water, Sanitation and Hygiene

Access to Water

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

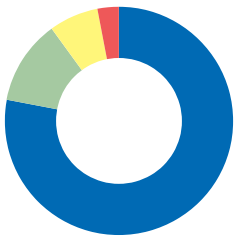


50%	Piped water
4%	Public tap
36%	Protected well/spring
0%	Water tank/trucking
3%	Bottled water
7%	Unprotected source
0%	Don't know

100% 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

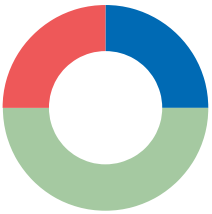
% of households by reported amount of time it takes to walk to main water source, fetch water, and return (including queuing at the water source):



78%	Water source located on site
12%	Less than 10 minutes
7%	10–20 minutes
3%	More than 20 minutes
0%	Don't know

Hygiene practices

% of households by location used for hand washing:



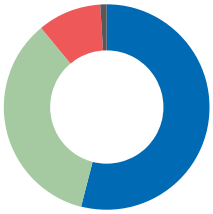
25%	Pouring device/sink faucet
50%	Basin/bucket
25%	No device
0%	Don't know

87% 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:



54%	Household latrine/toilet
35%	Communal latrine/toilet
10%	Open defecation
1%	Don't know

There is an average of **8** households reported to be sharing each communal latrine[11]

Household and communal latrine conditions

81% 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

65% 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	
71%	Agricultural	1	Agricultural	70%
7%	Small business owner	2	Small business owner	7%
6%	Construction	3	Construction	5%

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.

Funded by European Union Humanitarian Aid
unicef for every child
UNIVERSITAS MUHAMMADIYAH PALU
MUHAMMADIYAH UNIVERSITY OF PALU
HUMANITARIAN FORUM INDONESIA
REACH Informing more effective humanitarian action

% of households reporting that the household main income was unemployment, before and after the disaster:

Before Disaster		January 2019
2%	are unemployed	5%

10% of households had at least one working-age household member that is not working

Main reported barriers to finding work:[13]

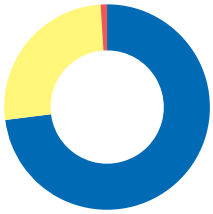
Underqualified for available jobs	46%
Disaster destroyed business/job opportunities	18%
Other	18%

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]



73%	Acceptable
26%	Borderline
1%	Poor

average rCSI score[15]

0.5

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

Purchased with own cash	99%
Own production (hunting, fishing, farming)	1%
Purchased with cash assistance	0%

Education

Student attendance

2% of households with children reported having school-aged children who were not attending school following the disaster

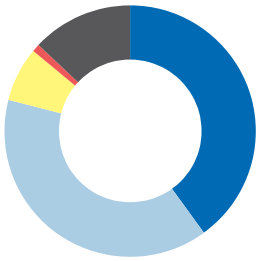
Among households where children were not attending school, there was an average of **1** child(ren) reported to not be attending school

Top 3 reported reasons why school-aged children were not attending school by households with children not attending school:[19]

1	Other	50%
2	School damaged/destroyed	50%
3	Child needed for houshold chores	0%

Condition of school facilities

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



40%	Good condition
39%	Lightly damaged
7%	Moderately damaged
1%	Severe damage
13%	Don't know
0%	Other

Health

Immunization

11% of households reported having children in the household that were not immunized for measles, mumps, and rhubella (MMR).

Illness and injury

39% 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.

Funded by European Union Humanitarian Aid
unicef for every child
UNIVERSITAS MUHAMMADIYAH PALU
MUHAMMADIYAH UNIVERSITY OF PALU
HUMANITARIAN FORUM INDONESIA
REACH Informing more effective humanitarian action

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	76%
2	Coughing	61%
3	Other health issue	20%

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	85%
Cost of medicine/treatment too high	5%
No information where health facilities are	5%

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	55%
2	Get regular medications	35%
3	None	31%

1.2.3 Priority Needs

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

1	Food	87%
2	Kitchen ware	54%
3	Other NFIs	26%

Communication with Communities

Information Needs

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

Livelihoods	42%
Humanitarian assistance	18%
Healthcare	10%

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

Face-to-face communication (e.g. from friends)	98%
Television	2%
Social media	0%

Humanitarian assistance

10% 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	100%
2	Other NFIs	9%
3	Water	9%

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

PMI (Indonesian Red Cross)	36%
Other	27%
Government distribution	27%

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.

Funded by European Union Humanitarian Aid
unicef for every child
UNIVERSITAS MUHAMMADIYAH PALU
MUHAMMADIYAH UNIVERSITY OF PALU
HUMANITARIAN FORUM INDONESIA
REACH Informing more effective humanitarian action

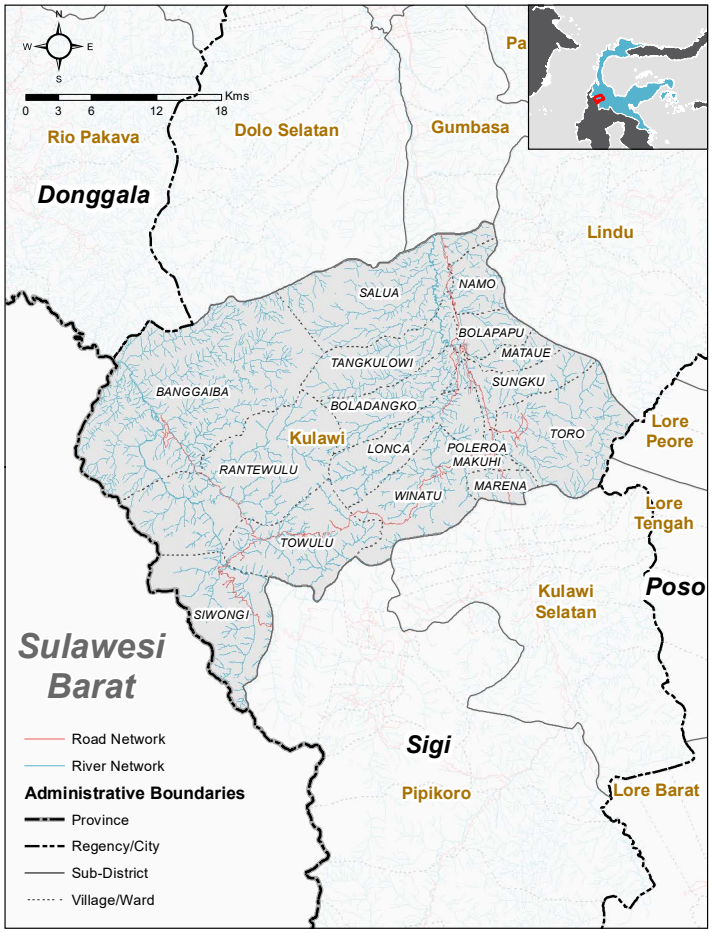
Multi-Sector Needs Assessment
Central Sulawesi Province
Sigi Regency, Kulawi Sub-District

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 109 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.



Respondent metadata[3]

109 Total households interviewed

46 Average age of respondent in years

36% of respondents were female

Demographics

Household composition by gender and age

There was an average of **5** individuals reported per household

Head of Household

10% of heads of households were female

23% of heads of households were elderly

49 average age of the head of household in years

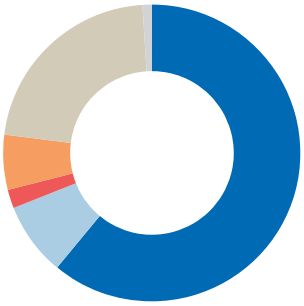
Dependency ratio[4]

0.7 average youth dependency ratio

0.3 average elderly dependency ratio

1 average age-dependency ratio

% of households by current living location:[5]



61% Own home

8% Shelter next to original home

0% Renting (non-displaced)

2% Renting (displaced)

6% Staying in another home that is not their own

22% Informal settlement

1% Other

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

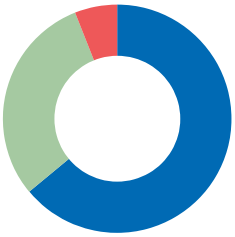
Funded by European Union Humanitarian Aid
unicef for every child
UNIVERSITAS MUHAMMADIYAH PALU
MUHAMMADIYAH UNIVERSITY OF PALU
HUMANITARIAN FORUM INDONESIA
REACH Informing more effective humanitarian action

Displacement and Protection

Displaced population[5]

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:



- **64%** Nearby/on site
- **30%** Within 2km
- **6%** Between 2km–5km
- **0%** More than 5km or Don't know

Non-displaced population[5]

4% 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

0.3 average dependency ratio of displaced household size to hosting household size for non-displaced households hosting IDPs[6]

Movement intentions in the next 6 months

% of households by where they most want to move to within the next six months:[7]

Remain in the current location	89%
Return back to original home	5%
Don't know	5%

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:[8]

1	House destroyed/ severely damaged	100%
2	Heavy damage to house	29%
3	Fear that house is still unsafe	14%

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.

Disabilities, Elderly, Minorities

2% 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

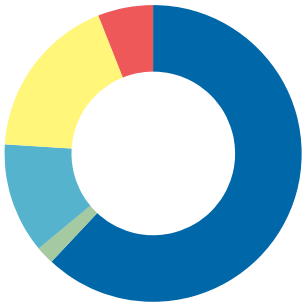
Psychosocial Support

76% of households reported having at least one member experiencing emotional distress from the disaster

Shelter

Shelter conditions

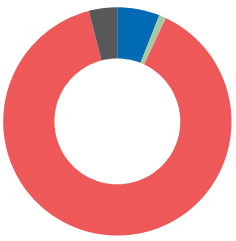
% of households by type of shelter they are currently living in at the time of data collection:



- **62%** House
- **2%** Apartment
- **12%** Transitional shelter (individual)
- **18%** Makeshift Shelter
- **6%** Tent
- **0%** Don't know
- **0%** Other

80% 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:



- **6%** Household owns the land
- **1%** Written agreement (still valid)
- **0%** Written agreement (expired)
- **89%** Verbal/no agreement[9]
- **4%** Don't know

Preferred Shelter Assistance

84% 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.

Funded by European Union Humanitarian Aid
unicef for every child
UNIVERSITAS MUHAMMADIYAH PALU
MUHAMMADIYAH UNIVERSITY OF PALU
HUMANITARIAN FORUM INDONESIA
REACH Informing more effective humanitarian action

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 70%
2. Assistance to build/repair shelter 48%
3. Space in Transitional Shelter 15%

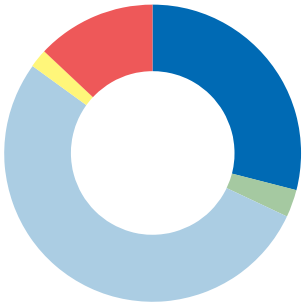
Top 3 most needed Non-Food Items (NFIs):[10]

1. Cooking utensils/kitchen set; 75%
2. Bedding items (bedsheets, pillows); 47%
3. Mattresses/Sleeping mats 32%

Water, Sanitation and Hygiene

Access to Water

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

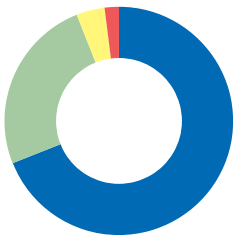


29%	Piped water
3%	Public tap
53%	Protected well/spring
0%	Water tank/trucking
2%	Bottled water
13%	Unprotected source
0%	Don't know

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

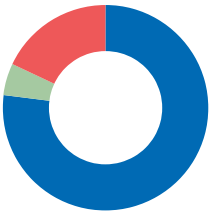
% of households by reported amount of time it takes to walk to main water source, fetch water, and return (including queuing at the water source):



69%	Water source located on site
25%	Less than 10 minutes
4%	10–20 minutes
2%	More than 20 minutes
0%	Don't know

Hygiene practices

% of households by location used for hand washing:



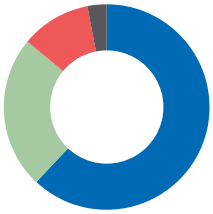
77%	Pouring device/sink faucet
5%	Basin/bucket
18%	No device
0%	Don't know

94% of households have water available for hand washing

56% of households have soap available for hand washing

Sanitation conditions

% of households by most common defecation practice:



62%	Household latrine/toilet
24%	Communal latrine/toilet
11%	Open defecation
3%	Don't know

There is an average of **23** households reported to be sharing each communal latrine[11]

Household and communal latrine conditions

66% 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

75% 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	
74%	Agricultural	1	Agricultural	72%
6%	Unemployed	2	Unemployed	10%
5%	Vocational profession	3	Vocational profession	6%

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.

Funded by European Union Humanitarian Aid
unicef for every child
UNIVERSITAS MUHAMMADIYAH PALU
MUHAMMADIYAH UNIVERSITY OF PALU
HUMANITARIAN FORUM INDONESIA
REACH Informing more effective humanitarian action

% of households reporting that the household main income was unemployment, before and after the disaster:

Before Disaster		January 2019
6%	are unemployed	9%

16% of households had at least one working-age household member that is not working

Main reported barriers to finding work:[13]

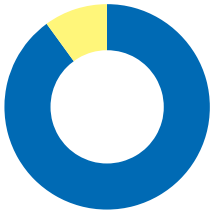
The recent disaster destroyed previous business/job opportunities	78%
Underqualified for available jobs	17%
Available jobs are too far away	6%

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]



90%	Acceptable
10%	Borderline
0%	Poor

average rCSI score[15]

3.3

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

Purchased with own cash	72%
Own production (hunting, fishing, farming)	16%
Food assistance (charity, private company)	6%

Education

Student attendance

4% of households with children reported having school-aged children who were not attending school following the disaster

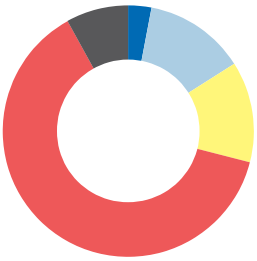
Among households where children were not attending school, there was an average of **1** child(ren) reported to not be attending school

Top 3 reported reasons why school-aged children were not attending school by households with children not attending school:[19]

1	Fear of school collapsing	33%
2	School fees too expensive	33%
3	School damaged/destroyed	33%

Condition of school facilities

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



3%	Good condition
13%	Lightly damaged
13%	Moderately damaged
63%	Severe damage
8%	Don't know
0%	Other

Health

Immunization

11% of households reported having children in the household that were not immunized for measles, mumps, and rhubella (MMR).

Illness and injury

52% 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.

Funded by European Union Humanitarian Aid
unicef for every child
UNIVERSITAS MUHAMMADIYAH PALU
MUHAMMADIYAH UNIVERSITY OF PALU
HUMANITARIAN FORUM INDONESIA
REACH Informing more effective humanitarian action

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	67%
2	Fever	63%
3	Diarrheal diseases	35%

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	90%
Cost of medicine/treatment too high	4%
Health center damaged / destroyed	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	38%
2	Get regular medications	38%
3	None	36%

1.2.3 Priority Needs

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

1	Food	80%
2	Kitchen ware	50%
3	Shelter support	49%

Communication with Communities

Information Needs

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

Humanitarian assistance	51%
Status of housing	23%
Livelihoods	9%

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

Face-to-face communication (e.g. from friends)	75%
Television	18%
Social media	4%

Humanitarian assistance

56% 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	79%
2	Other NFIs	31%
3	Tarpaulin	21%

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

NGO distribution	54%
Government distribution	20%
Private Company	15%

87% 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.

Funded by European Union Humanitarian Aid
unicef for every child
UNIVERSITAS MUHAMMADIYAH PALU
MUHAMMADIYAH UNIVERSITY OF PALU
HUMANITARIAN FORUM INDONESIA
REACH Informing more effective humanitarian action

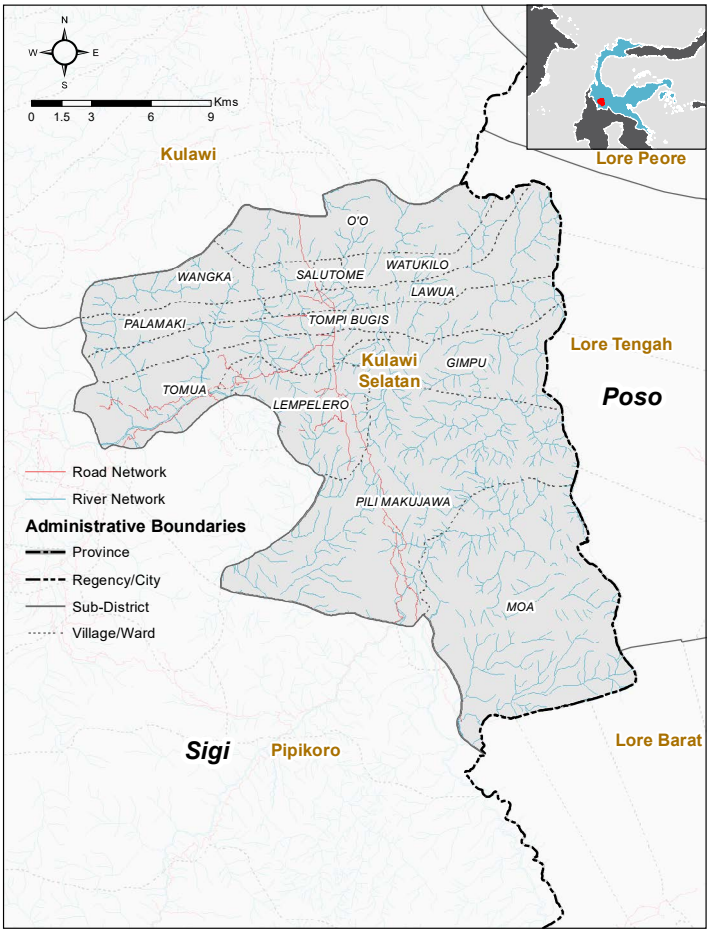
Multi-Sector Needs Assessment
Central Sulawesi Province
Sigi Regency, Kulawi Selatan Sub-District

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 113 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.



Respondent metadata[3]

113	Total households interviewed
46	Average age of respondent in years
43%	of respondents were female

Demographics

Household composition by gender and age

There was an average of **5** individuals reported per household

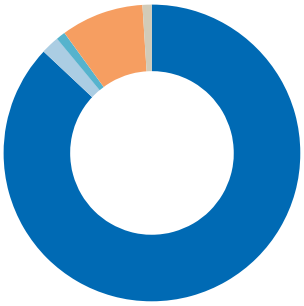
Head of Household

8%	of heads of households were female
22%	of heads of households were elderly
48	average age of the head of household in years

Dependency ratio[4]

0.7	average youth dependency ratio
0.3	average elderly dependency ratio
1	average age-dependency ratio

% of households by current living location:[5]



87%	Own home
2%	Shelter next to original home
1%	Renting (non-displaced)
0%	Renting (displaced)
9%	Staying in another home that is not their own
1%	Informal settlement
0%	Other

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

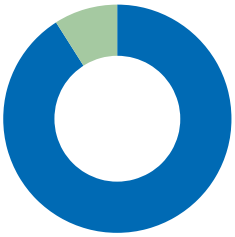
Funded by European Union Humanitarian Aid
unicef for every child
UNIVERSITAS MUHAMMADIYAH PALU
MUHAMMADIYAH UNIVERSITY OF PALU
HUMANITARIAN FORUM INDONESIA
REACH Informing more effective humanitarian action

Displacement and Protection

Displaced population[5]

12% 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:



- **91%** Nearby/on site
- **9%** Within 2km
- **0%** Between 2km–5km
- **0%** More than 5km or Don't know

Non-displaced population[5]

2% of non-displaced households were hosting at least one displaced household in a house that they own

There is an average of **5** IDP individuals in each displaced household hosted by a non-displaced household

1.2 average dependency ratio of displaced household size to hosting household size for non-displaced households hosting IDPs[6]

Movement intentions in the next 6 months

% of households by where they most want to move to within the next six months:[7]

Remain in the current location	92%
Don't know	3%
Return back to original home	3%

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:[8]

1	Heavy damage to house	50%
2	House destroyed/ severely damaged	33%
3	Mild damage to house	17%

Protection of Women's Needs

5% 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.

Disabilities, Elderly, Minorities

5% 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

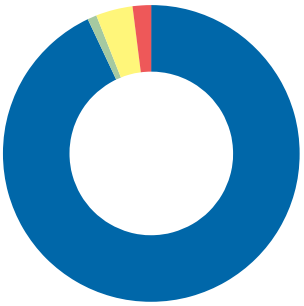
Psychosocial Support

90% of households reported having at least one member experiencing emotional distress from the disaster

Shelter

Shelter conditions

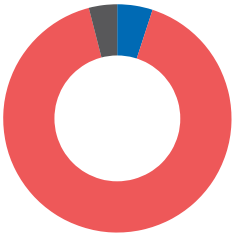
% of households by type of shelter they are currently living in at the time of data collection:



- **93%** House
- **1%** Apartment
- **0%** Transitional shelter (individual)
- **4%** Makeshift Shelter
- **2%** Tent
- **0%** Don't know
- **0%** Other

66% 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:



- **5%** Household owns the land
- **0%** Written agreement (still valid)
- **0%** Written agreement (expired)
- **91%** Verbal/no agreement[9]
- **4%** Don't know

Preferred Shelter Assistance

74% 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.

Funded by European Union Humanitarian Aid
unicef for every child
UNIVERSITAS MUHAMMADIYAH PALU
MUHAMMADIYAH UNIVERSITY OF PALU
HUMANITARIAN FORUM INDONESIA
REACH Informing more effective humanitarian action

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 — 48%
3. None — 15%

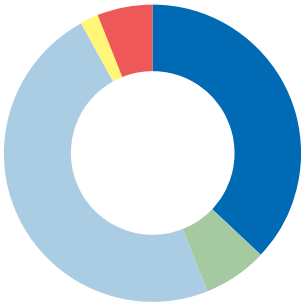
Top 3 most needed Non-Food Items (NFIs):[10]

1. Cooking utensils/kitchen set; — 71%
2. Bedding items (bedsheets, pillows); — 56%
3. Mattresses/Sleeping mats — 37%

Water, Sanitation and Hygiene

Access to Water

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

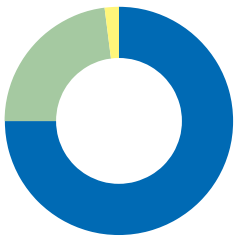


37%	Piped water
7%	Public tap
48%	Protected well/spring
0%	Water tank/trucking
2%	Bottled water
6%	Unprotected source
0%	Don't know

96% 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

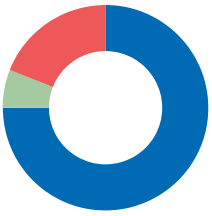
% of households by reported amount of time it takes to walk to main water source, fetch water, and return (including queuing at the water source):



75%	Water source located on site
23%	Less than 10 minutes
2%	10–20 minutes
0%	More than 20 minutes
0%	Don't know

Hygiene practices

% of households by location used for hand washing:



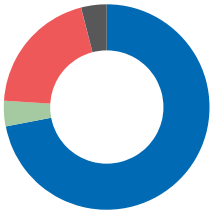
75%	Pouring device/sink faucet
6%	Basin/bucket
19%	No device
0%	Don't know

100% of households have water available for hand washing

42% of households have soap available for hand washing

Sanitation conditions

% of households by most common defecation practice:



72%	Household latrine/toilet
4%	Communal latrine/toilet
20%	Open defecation
4%	Don't know

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

Household and communal latrine conditions

83% 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

76% 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		
85%	Agricultural	1	Agricultural	85%
4%	Teacher, lawyer, engineer	2	Teacher, lawyer, engineer	4%
3%	Small business owner	3	Small business owner	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.

Funded by European Union Humanitarian Aid
unicef for every child
UNIVERSITAS MUHAMMADIYAH PALU
MUHAMMADIYAH UNIVERSITY OF PALU
HUMANITARIAN FORUM INDONESIA
REACH Informing more effective humanitarian action

% of households reporting that the household main income was unemployment, before and after the disaster:

Before Disaster		January 2019
0%	are unemployed	0%

14% of households had at least one working-age household member that is not working

Main reported barriers to finding work:[13]

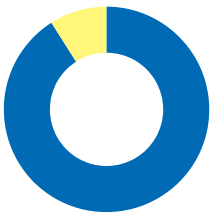
The recent disaster destroyed previous business/job opportunities	69%
Available jobs are too far away	19%
Underqualified for available jobs	12%

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]



91%	Acceptable
9%	Borderline
0%	Poor

average rCSI score[15]

1.2

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

Own production (hunting, fishing, farming)	48%
Purchased with own cash	45%
Food assistance (charity, private company)	5%

Education

Student attendance

4% of households with children reported having school-aged children who were not attending school following the disaster

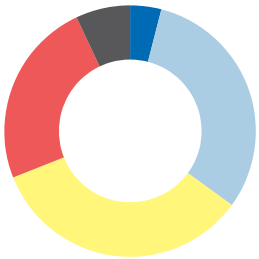
Among households where children were not attending school, there was an average of **1** child(ren) reported to not be attending school

Top 3 reported reasons why school-aged children were not attending school by households with children not attending school:[19]

1	Child not attending school before disaster	67%
2	Other	33%
3	Child needed to work for income	0%

Condition of school facilities

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



4%	Good condition
31%	Lightly damaged
34%	Moderately damaged
24%	Severe damage
7%	Don't know
0%	Other

Health

Immunization

1% of households reported having children in the household that were not immunized for measles, mumps, and rhubella (MMR).

Illness and injury

62% 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.

Funded by European Union Humanitarian Aid
unicef for every child
UNIVERSITAS MUHAMMADIYAH PALU
MUHAMMADIYAH UNIVERSITY OF PALU
HUMANITARIAN FORUM INDONESIA
REACH Informing more effective humanitarian action

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	83%
2	Coughing	70%
3	Diarrheal diseases	23%

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%
Health center too far away	6%
Other	1%

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	47%
2	Treat health problems	42%
3	None	31%

1.2.3 Priority Needs

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

1	Food	88%
2	Kitchen ware	49%
3	Shelter support	28%

Communication with Communities

Information Needs

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

Humanitarian assistance	74%
Livelihoods	8%
Status of housing	7%

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

Face-to-face communication (e.g. from friends)	79%
Television	19%
Social media	3%

Humanitarian assistance

58% 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	95%
2	Tarpaulin	29%
3	Tents	25%

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

NGO distribution	80%
Government distribution	6%
Religious Organization	5%

98% 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.

Funded by European Union Humanitarian Aid
unicef for every child
UNIVERSITAS MUHAMMADIYAH PALU
MUHAMMADIYAH UNIVERSITY OF PALU
HUMANITARIAN FORUM INDONESIA
REACH Informing more effective humanitarian action

Multi-Sector Needs Assessment
Central Sulawesi Province
Sigi Regency, Lindu Sub-District

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 126 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.

Respondent metadata[3]

126 Total households interviewed

42 Average age of respondent in years

37% of respondents were female

Demographics

Household composition by gender and age

There was an average of **4** individuals reported per household

Head of Household

7% of heads of households were female

9% of heads of households were elderly

44 average age of the head of household in years

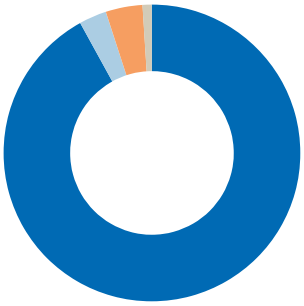
Dependency ratio[4]

0.8 average youth dependency ratio

0.1 average elderly dependency ratio

0.9 average age-dependency ratio

% of households by current living location:[5]



92% Own home

3% Shelter next to original home

0% Renting (non-displaced)

0% Renting (displaced)

4% Staying in another home that is not their own

1% Informal settlement

0% Other

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

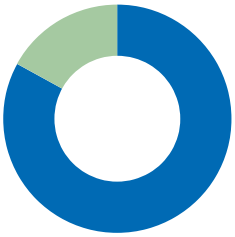
Funded by European Union Humanitarian Aid
unicef for every child
UNIVERSITAS MUHAMMADIYAH PALU
MUHAMMADIYAH UNIVERSITY OF PALU
HUMANITARIAN FORUM INDONESIA
REACH Informing more effective humanitarian action

Displacement and Protection

Displaced population[5]

8% 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:



- **83%** Nearby/on site
- **17%** Within 2km
- **0%** Between 2km–5km
- **0%** More than 5km or Don't know

Non-displaced population[5]

2% 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

0.6 average dependency ratio of displaced household size to hosting household size for non-displaced households hosting IDPs[6]

Movement intentions in the next 6 months

% of households by where they most want to move to within the next six months:[7]

Remain in the current location	97%	
Don't know	2%	
Move to a new location	1%	

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:[8]

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

Protection of Women's Needs

13% 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.

Disabilities, Elderly, Minorities

2% 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

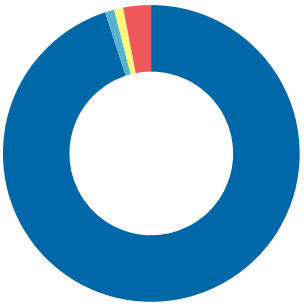
Psychosocial Support

84% of households reported having at least one member experiencing emotional distress from the disaster

Shelter

Shelter conditions

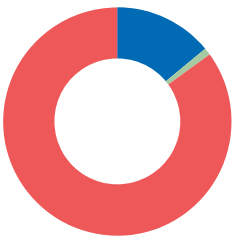
% of households by type of shelter they are currently living in at the time of data collection:



- **95%** House
- **0%** Apartment
- **1%** Transitional shelter (individual)
- **1%** Makeshift Shelter
- **3%** Tent
- **0%** Don't know
- **0%** Other

48% 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:



- **14%** Household owns the land
- **1%** Written agreement (still valid)
- **0%** Written agreement (expired)
- **85%** Verbal/no agreement[9]
- **0%** 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

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.

Funded by European Union Humanitarian Aid
unicef for every child
UNIVERSITAS MUHAMMADIYAH PALU
MUHAMMADIYAH UNIVERSITY OF PALU
HUMANITARIAN FORUM INDONESIA
REACH Informing more effective humanitarian action

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. Provide electricity to shelter — 70%
2. Shelter building materials — 46%
3. Assistance to build/repair shelter — 36%

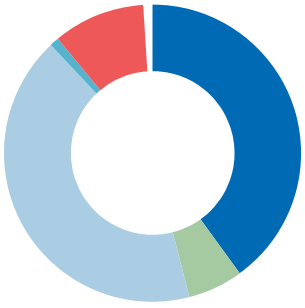
Top 3 most needed Non-Food Items (NFIs):[10]

1. Cooking utensils/kitchen set; — 71%
2. Bedding items (bedsheets, pillows); — 47%
3. Sources of light — 33%

Water, Sanitation and Hygiene

Access to Water

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

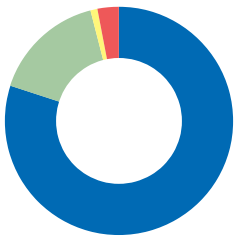


40%	Piped water
6%	Public tap
42%	Protected well/spring
1%	Water tank/trucking
0%	Bottled water
10%	Unprotected source
0%	Don't know

98% 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

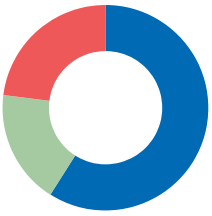
% of households by reported amount of time it takes to walk to main water source, fetch water, and return (including queuing at the water source):



80%	Water source located on site
16%	Less than 10 minutes
1%	10–20 minutes
3%	More than 20 minutes
0%	Don't know

Hygiene practices

% of households by location used for hand washing:



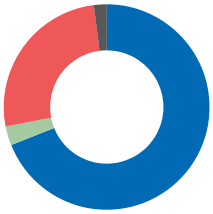
59%	Pouring device/sink faucet
18%	Basin/bucket
23%	No device
0%	Don't know

98% of households have water available for hand washing

47% of households have soap available for hand washing

Sanitation conditions

% of households by most common defecation practice:



69%	Household latrine/toilet
3%	Communal latrine/toilet
26%	Open defecation
2%	Don't know

There is an average of **6** households reported to be sharing each communal latrine[11]

Household and communal latrine conditions

55% 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

67% 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		
85%	Agricultural	1	Agricultural	85%
6%	Small business owner	2	Small business owner	6%
5%	Fishing	3	Fishing	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.

Funded by European Union Humanitarian Aid
unicef for every child
UNIVERSITAS MUHAMMADIYAH PALU
MUHAMMADIYAH UNIVERSITY OF PALU
HUMANITARIAN FORUM INDONESIA
REACH Informing more effective humanitarian action

% of households reporting that the household main income was unemployment, before and after the disaster:

Before Disaster		January 2019
1%	are unemployed	1%

9% of households had at least one working-age household member that is not working

Main reported barriers to finding work:[13]

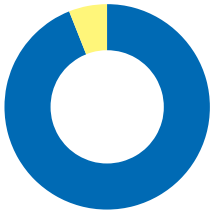
The recent disaster destroyed previous business/job opportunities	82%
Disaster destroyed cultivation land for planting	9%
Only dangerous or low-paid jobs are available	9%

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]



94%	Acceptable
6%	Borderline
0%	Poor

average rCSI score[15]

1.3

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

Own production (hunting, fishing, farming)	63%
Purchased with own cash	37%
Gift from family or friends)	0%

Education

Student attendance

2% of households with children reported having school-aged children who were not attending school following the disaster

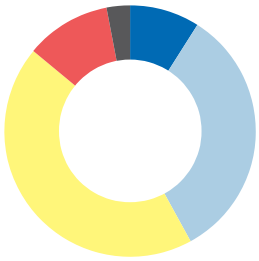
Among households where children were not attending school, there was an average of **2** child(ren) reported to not be attending school

Top 3 reported reasons why school-aged children were not attending school by households with children not attending school:[19]

1	Child not attending school before disaster	50%
2	Household displaced; school too far	50%
3	Child needed for houshold chores	0%

Condition of school facilities

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



9%	Good condition
33%	Lightly damaged
44%	Moderately damaged
11%	Severe damage
3%	Don't know
0%	Other

Health

Immunization

11% of households reported having children in the household that were not immunized for measles, mumps, and rhubella (MMR).

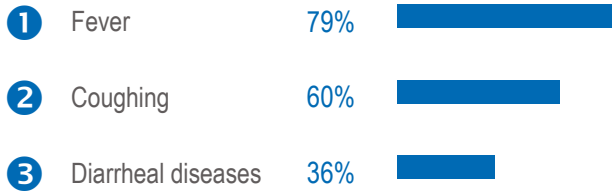
Illness and injury

60% 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

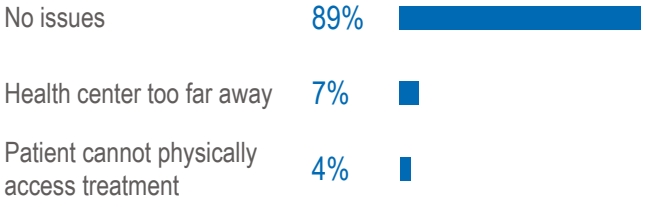
13. Due to the sensitivity over asking about monthly income, respondents were asked what range their monthly income fell within. The upper bound of the range was used, and current income was divided by previous income before being averaged.
14. FCS is a measure of food security that looks at how often 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.

Funded by European Union Humanitarian Aid
unicef for every child
UNIVERSITAS MUHAMMADIYAH PALU
MUHAMMADIYAH UNIVERSITY OF PALU
HUMANITARIAN FORUM INDONESIA
REACH Informing more effective humanitarian action

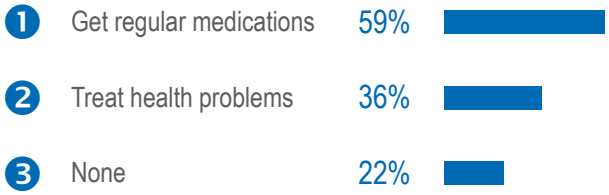
Top 3 types of health concerns reported by households with a member who had suffered from health issues in the 30 days prior to data collection:[18]



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

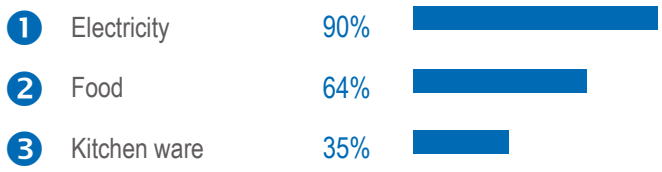


Main reasons (if any) that households have had to access health services in the 30 days prior to data collection:[20]



1.2.3 Priority Needs

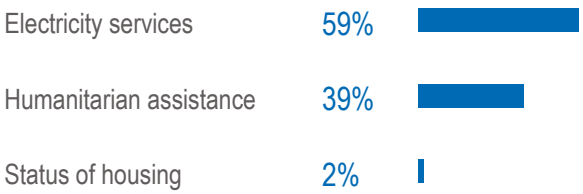
Top 3 most important priority needs as reported by households:[20]



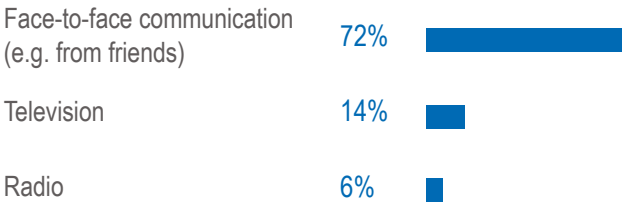
Communication with Communities

Information Needs

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



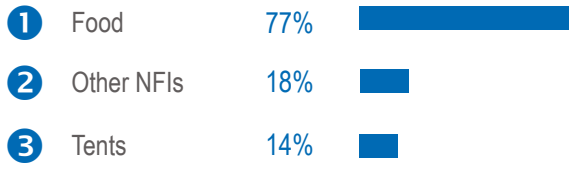
% of households by most preferred source from which they would like to receive new information:[19]



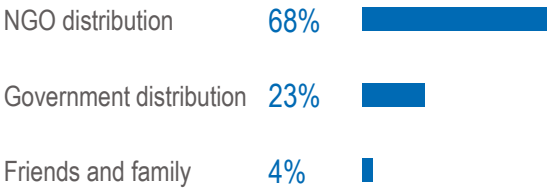
Humanitarian assistance

18% 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]



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



100% 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.

Funded by European Union Humanitarian Aid
unicef for every child
UNIVERSITAS MUHAMMADIYAH PALU
MUHAMMADIYAH UNIVERSITY OF PALU
HUMANITARIAN FORUM INDONESIA
REACH Informing more effective humanitarian action

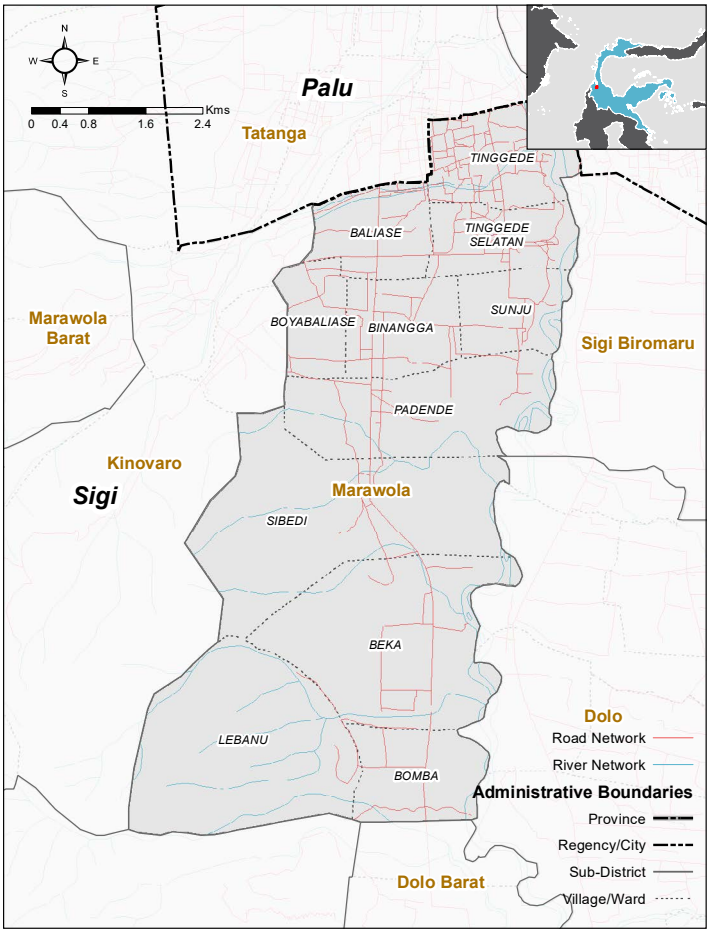
Multi-Sector Needs Assessment
Central Sulawesi Province
Sigi Regency, Marawola Sub-District

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 118 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.

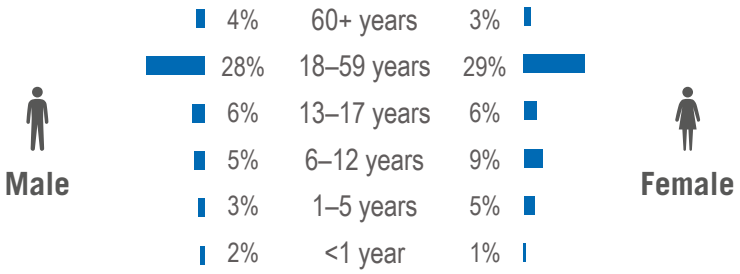


Respondent metadata[3]

118	Total households interviewed
45	Average age of respondent in years
45%	of respondents were female

Demographics

Household composition by gender and age



There was an average of **5** individuals reported per household

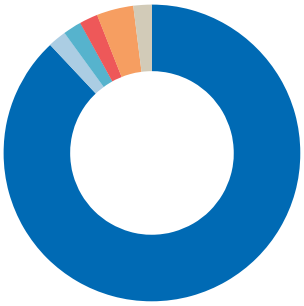
Head of Household

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

Dependency ratio[4]

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

% of households by current living location:[5]



88%	Own home
2%	Shelter next to original home
2%	Renting (non-displaced)
2%	Renting (displaced)
4%	Staying in another home that is not their own
2%	Informal settlement
0%	Other

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

Funded by European Union Humanitarian Aid
unicef for every child
UNIVERSITAS MUHAMMADIYAH PALU
MUHAMMADIYAH UNIVERSITY OF PALU
HUMANITARIAN FORUM INDONESIA
REACH Informing more effective humanitarian action

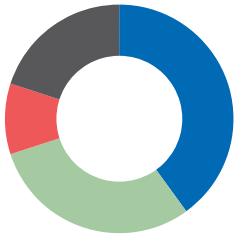
Multi-Sector Needs Assessment
Central Sulawesi Province
Sigi Regency, Marawola Sub-District

Displacement and Protection

Displaced population[5]

10% 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:



- **40%** Nearby/on site
- **30%** Within 2km
- **10%** Between 2km–5km
- **20%** More than 5km or Don't know

Non-displaced population[5]

5% 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

1 average dependency ratio of displaced household size to hosting household size for non-displaced households hosting IDPs[6]

Movement intentions in the next 6 months

% of households by where they most want to move to within the next six months:[7]

Remain in the current location	92%
Move into the Government Transitional Shelter	3%
Move to a new location	2%

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:[8]

1. House destroyed/ severely damaged — 50%
2. Heavy damage to house — 50%
3. Mild damage to house — 25%

Protection of Women's Needs

19% 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.

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

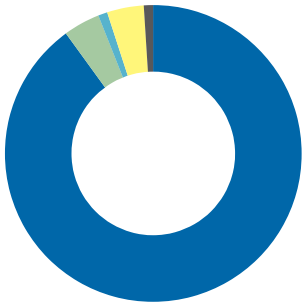
Psychosocial Support

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

Shelter

Shelter conditions

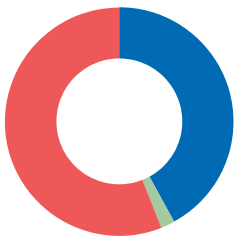
% of households by type of shelter they are currently living in at the time of data collection:



- **90%** House
- **4%** Apartment
- **1%** Transitional shelter (individual)
- **4%** Makeshift Shelter
- **0%** Tent
- **1%** Don't know
- **0%** Other

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:



- **42%** Household owns the land
- **2%** Written agreement (still valid)
- **0%** Written agreement (expired)
- **56%** Verbal/no agreement[9]
- **0%** Don't know

Preferred Shelter Assistance

79% 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.

Funded by European Union Humanitarian Aid
unicef for every child
UNIVERSITAS MUHAMMADIYAH PALU
MUHAMMADIYAH UNIVERSITY OF PALU
HUMANITARIAN FORUM INDONESIA
REACH Informing more effective humanitarian action

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 — 66%
2. Shelter building materials — 60%
3. Future disaster information — 33%

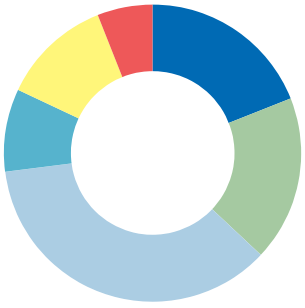
Top 3 most needed Non-Food Items (NFIs):[10]

1. Cooking utensils/kitchen set; — 65%
2. Bedding items (bedsheets, pillows); — 57%
3. Mattresses/Sleeping mats — 45%

Water, Sanitation and Hygiene

Access to Water

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

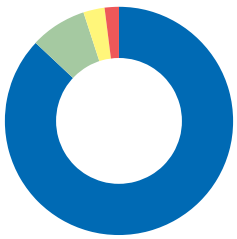


19%	Piped water
18%	Public tap
36%	Protected well/spring
9%	Water tank/trucking
12%	Bottled water
6%	Unprotected source
0%	Don't know

100% of households reported drinking water that had been treated and was safe to drink

93% of households reported having enough water to meet their total needs for drinking, cooking, bathing, and washing

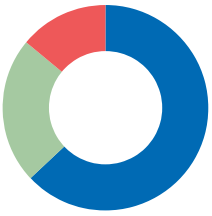
% of households by reported amount of time it takes to walk to main water source, fetch water, and return (including queuing at the water source):



87%	Water source located on site
8%	Less than 10 minutes
3%	10–20 minutes
2%	More than 20 minutes
0%	Don't know

Hygiene practices

% of households by location used for hand washing:



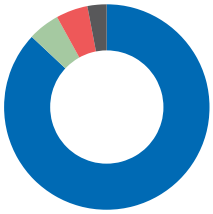
63%	Pouring device/sink faucet
23%	Basin/bucket
14%	No device
0%	Don't know

95% of households have water available for hand washing

84% of households have soap available for hand washing

Sanitation conditions

% of households by most common defecation practice:



87%	Household latrine/toilet
5%	Communal latrine/toilet
5%	Open defecation
3%	Don't know

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

Household and communal latrine conditions

87% 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

75% 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	
28%	Agricultural	1	Agricultural	28%
15%	Service industry	2	Service industry	14%
9%	Government job	3	Government job	9%

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.

Funded by European Union Humanitarian Aid
unicef for every child
UNIVERSITAS MUHAMMADIYAH PALU
MUHAMMADIYAH UNIVERSITY OF PALU
HUMANITARIAN FORUM INDONESIA
REACH Informing more effective humanitarian action

% of households reporting that the household main income was unemployment, before and after the disaster:

Before Disaster		January 2019
5%	are unemployed	5%

12% of households had at least one working-age household member that is not working

Main reported barriers to finding work:[13]

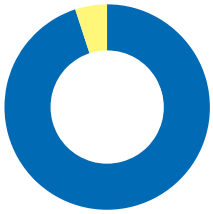
Underqualified for available jobs	71%
Available jobs are too far away	14%
Lack of family/personal connections	7%

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]



95%	Acceptable
5%	Borderline
0%	Poor

average rCSI score[15]

0

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

Purchased with own cash	97%
Gift from family or friends)	2%
Food assistance (charity, private company)	1%

Education

Student attendance

0% of households with children reported having school-aged children who were not attending school following the disaster

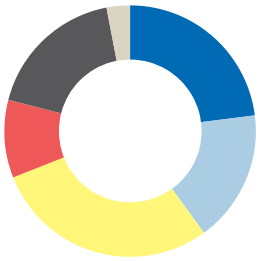
Among households where children were not attending school, there was an average of **0** child(ren) reported to not be attending school

Top 3 reported reasons why school-aged children were not attending school by households with children not attending school:[19]

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:



23%	Good condition
17%	Lightly damaged
29%	Moderately damaged
10%	Severe damage
18%	Don't know
3%	Other

Health

Immunization

8% of households reported having children in the household that were not immunized for measles, mumps, and rubella (MMR).

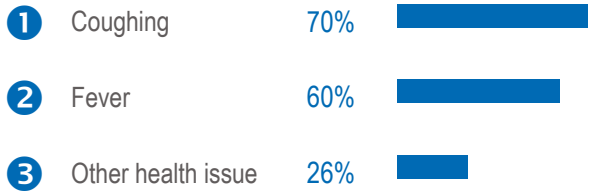
Illness and injury

42% 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

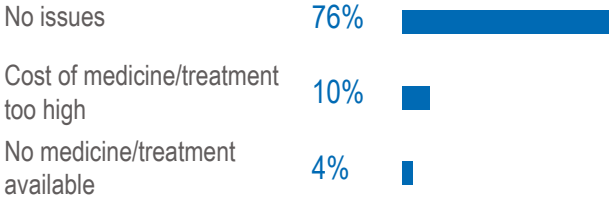
13. Due to the sensitivity over asking about monthly income, respondents were asked what range their monthly income fell within. The upper bound of the range was used, and current income was divided by previous income before being averaged.
14. FCS is a measure of food security that looks at how often 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.

Funded by European Union Humanitarian Aid
unicef for every child
UNIVERSITAS MUHAMMADIYAH PALU
MUHAMMADIYAH UNIVERSITY OF PALU
HUMANITARIAN FORUM INDONESIA
REACH Informing more effective humanitarian action

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]



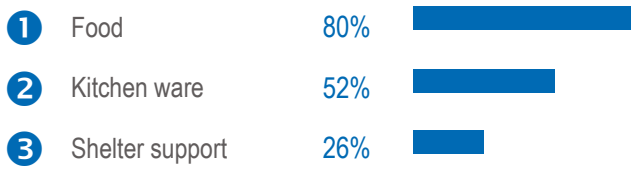
Main barriers to accessing healthcare reported by households who had needed to access medical treatment the 30 days prior to data collection:[19]



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

1.2.3 Priority Needs

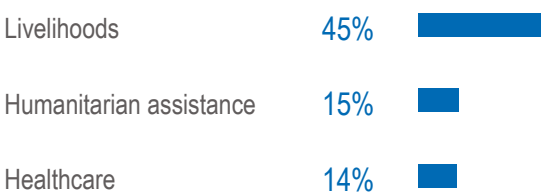
Top 3 most important priority needs as reported by households:[20]



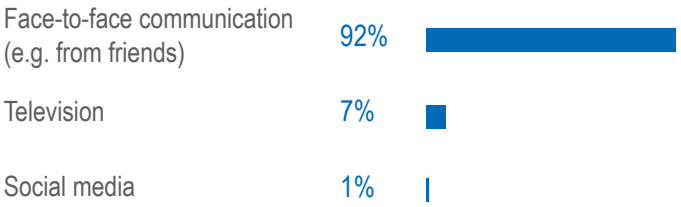
Communication with Communities

Information Needs

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



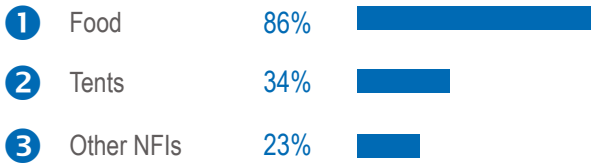
% of households by most preferred source from which they would like to receive new information:[19]



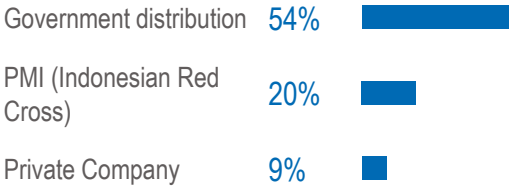
Humanitarian assistance

37% 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]



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



93% 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.

Funded by European Union Humanitarian Aid
unicef for every child
UNIVERSITAS MUHAMMADIYAH PALU
MUHAMMADIYAH UNIVERSITY OF PALU
HUMANITARIAN FORUM INDONESIA
REACH Informing more effective humanitarian action

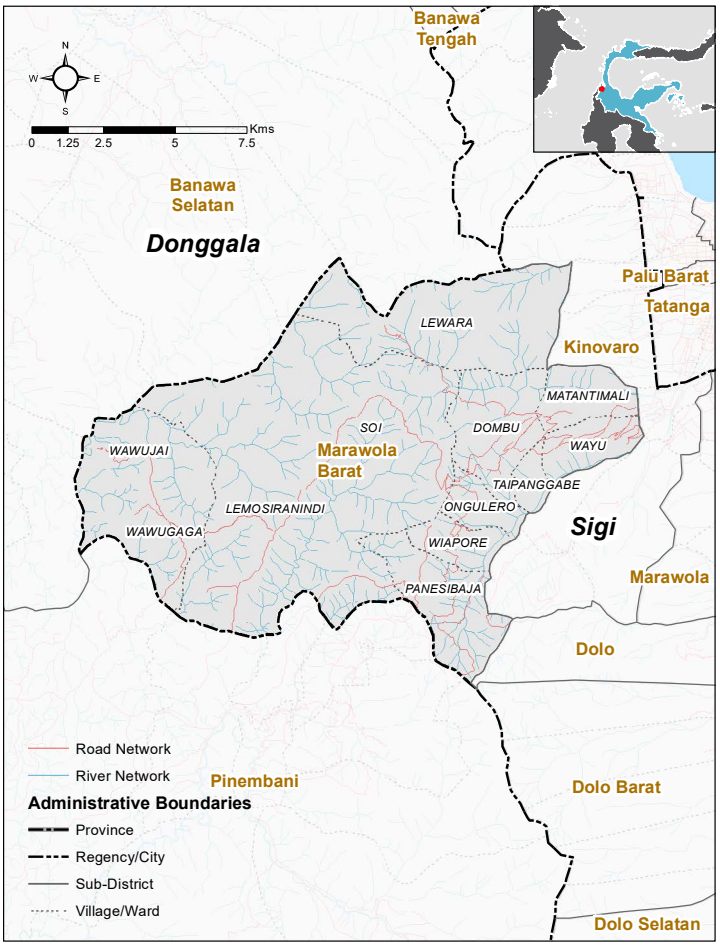
Multi-Sector Needs Assessment
Central Sulawesi Province
Sigi Regency, Marawola Barat Sub-District

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 115 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.



Respondent metadata[3]

115	Total households interviewed
39	Average age of respondent in years
30%	of respondents were female

Demographics

Household composition by gender and age

There was an average of **4** individuals reported per household

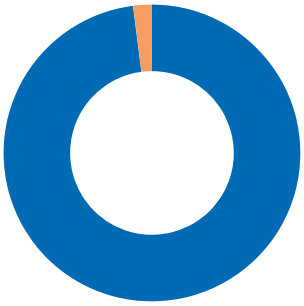
Head of Household

3%	of heads of households were female
1%	of heads of households were elderly
41	average age of the head of household in years

Dependency ratio[4]

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

% of households by current living location:[5]



98%	Own home
0%	Shelter next to original home
0%	Renting (non-displaced)
0%	Renting (displaced)
2%	Staying in another home that is not their own
0%	Informal settlement
0%	Other

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

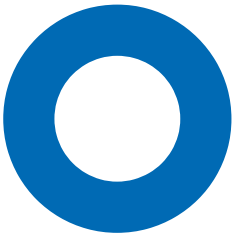
Funded by European Union Humanitarian Aid
unicef for every child
UNIVERSITAS MUHAMMADIYAH PALU
MUHAMMADIYAH UNIVERSITY OF PALU
HUMANITARIAN FORUM INDONESIA
REACH Informing more effective humanitarian action

Displacement and Protection

Displaced population[5]

2% 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[5]

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

0 average dependency ratio of displaced household size to hosting household size for non-displaced households hosting IDPs[6]

Movement intentions in the next 6 months

% of households by where they most want to move to within the next six months:[7]

Remain in the current location	97%	
Don't know	2%	
Move to a new location	1%	

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:[8]

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

Protection of Women's Needs

19% 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.

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

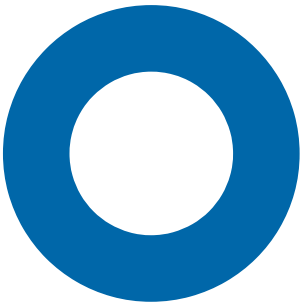
Psychosocial Support

33% of households reported having at least one member experiencing emotional distress from the disaster

Shelter

Shelter conditions

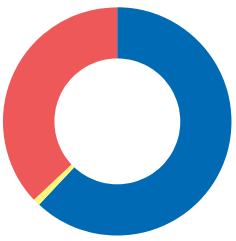
% of households by type of shelter they are currently living in at the time of data collection:



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

34% 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:



- **62%** Household owns the land
- **0%** Written agreement (still valid)
- **1%** Written agreement (expired)
- **37%** Verbal/no agreement[9]
- **0%** Don't know

Preferred Shelter Assistance

53% 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.

Funded by European Union Humanitarian Aid
unicef for every child
UNIVERSITAS MUHAMMADIYAH PALU
MUHAMMADIYAH UNIVERSITY OF PALU
HUMANITARIAN FORUM INDONESIA
REACH Informing more effective humanitarian action

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 — 50%
2. Shelter building materials — 47%
3. None — 27%

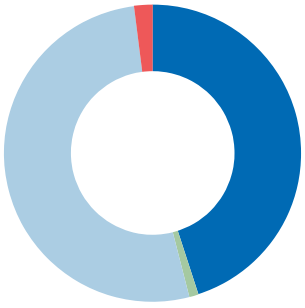
Top 3 most needed Non-Food Items (NFIs):[10]

1. Mattresses/Sleeping mats — 67%
2. Cooking utensils/kitchen set; — 63%
3. Bedding items (bedsheets, pillows); — 60%

Water, Sanitation and Hygiene

Access to Water

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

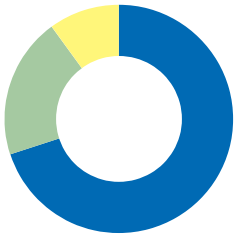


- 45% Piped water
- 1% Public tap
- 52% Protected well/spring
- 0% Water tank/trucking
- 0% Bottled water
- 2% Unprotected source
- 0% Don't know

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

99% of households reported having enough water to meet their total needs for drinking, cooking, bathing, and washing

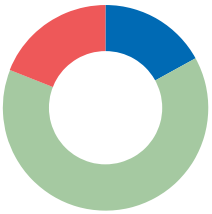
% of households by reported amount of time it takes to walk to main water source, fetch water, and return (including queuing at the water source):



- 70% Water source located on site
- 20% Less than 10 minutes
- 10% 10–20 minutes
- 0% More than 20 minutes
- 0% Don't know

Hygiene practices

% of households by location used for hand washing:



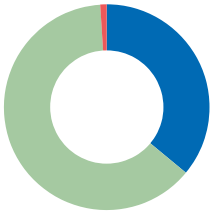
- 17% Pouring device/sink faucet
- 64% Basin/bucket
- 19% No device
- 0% Don't know

85% of households have water available for hand washing

57% of households have soap available for hand washing

Sanitation conditions

% of households by most common defecation practice:



- 36% Household latrine/toilet
- 63% Communal latrine/toilet
- 1% Open defecation
- 0% Don't know

There is an average of **13** households reported to be sharing each communal latrine[11]

Household and communal latrine conditions

62% of households with communal latrines reported their toilet had adequate lighting

12% of households with communal toilets reported that there are separate toilets for men and women

74% 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	
97%	Agricultural	1	Agricultural	97%
2%	Small business owner	2	Small business owner	2%
1%	Service industry	3	Service industry	1%

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.

Funded by European Union Humanitarian Aid
unicef for every child
UNIVERSITAS MUHAMMADIYAH PALU
MUHAMMADIYAH UNIVERSITY OF PALU
HUMANITARIAN FORUM INDONESIA
REACH Informing more effective humanitarian action

% of households reporting that the household main income was unemployment, before and after the disaster:

Before Disaster		January 2019
0%	are unemployed	0%

2% of households had at least one working-age household member that is not working

Main reported barriers to finding work:[13]

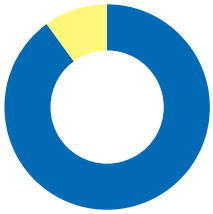
Only dangerous or low-paid jobs are available	50%
Underqualified for available jobs	50%
Lack of family/personal connections	0%

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]



90%	Acceptable
10%	Borderline
0%	Poor

average rCSI score[15]

1.3

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

Purchased with own cash	96%
Received in-kind for labor or other items	3%
Own production (hunting, fishing, farming)	1%

Education

Student attendance

0% of households with children reported having school-aged children who were not attending school following the disaster

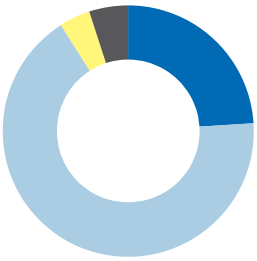
Among households where children were not attending school, there was an average of **0** child(ren) reported to not be attending school

Top 3 reported reasons why school-aged children were not attending school by households with children not attending school:[19]

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:



24%	Good condition
67%	Lightly damaged
4%	Moderately damaged
0%	Severe damage
5%	Don't know
0%	Other

Health

Immunization

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

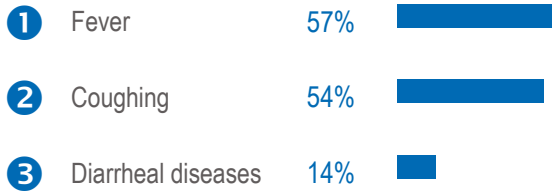
Illness and injury

32% 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

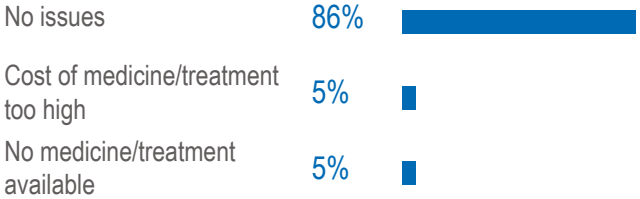
13. Due to the sensitivity over asking about monthly income, respondents were asked what range their monthly income fell within. The upper bound of the range was used, and current income was divided by previous income before being averaged.
14. FCS is a measure of food security that looks at how often 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.

Funded by European Union Humanitarian Aid
unicef for every child
UNIVERSITAS MUHAMMADIYAH PALU
MUHAMMADIYAH UNIVERSITY OF PALU
HUMANITARIAN FORUM INDONESIA
REACH Informing more effective humanitarian action

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]



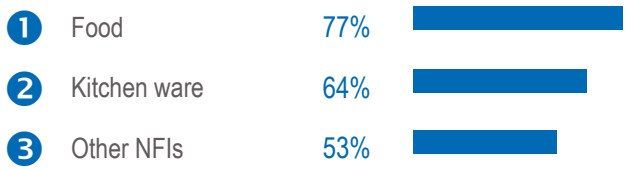
Main barriers to accessing healthcare reported by households who had needed to access medical treatment the 30 days prior to data collection:[19]



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

1.2.3 Priority Needs

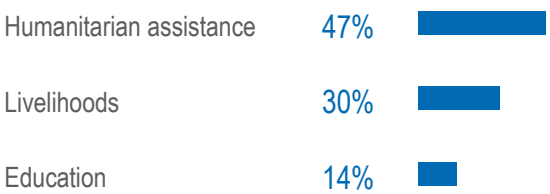
Top 3 most important priority needs as reported by households:[20]



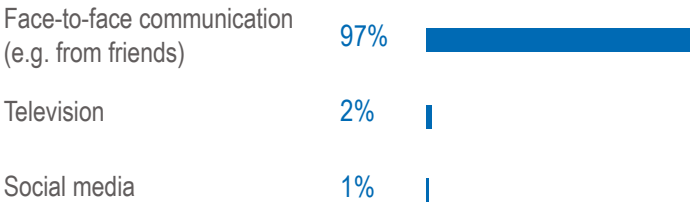
Communication with Communities

Information Needs

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



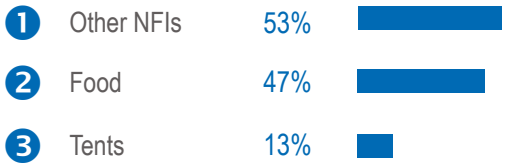
% of households by most preferred source from which they would like to receive new information:[19]



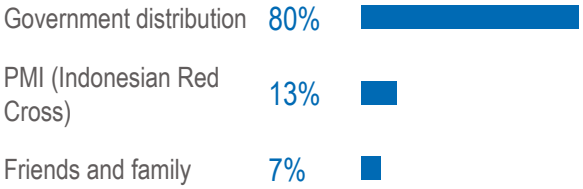
Humanitarian assistance

13% 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]



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



100% 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.

Funded by European Union Humanitarian Aid
unicef for every child
UNIVERSITAS MUHAMMADIYAH PALU
MUHAMMADIYAH UNIVERSITY OF PALU
HUMANITARIAN FORUM INDONESIA
REACH Informing more effective humanitarian action

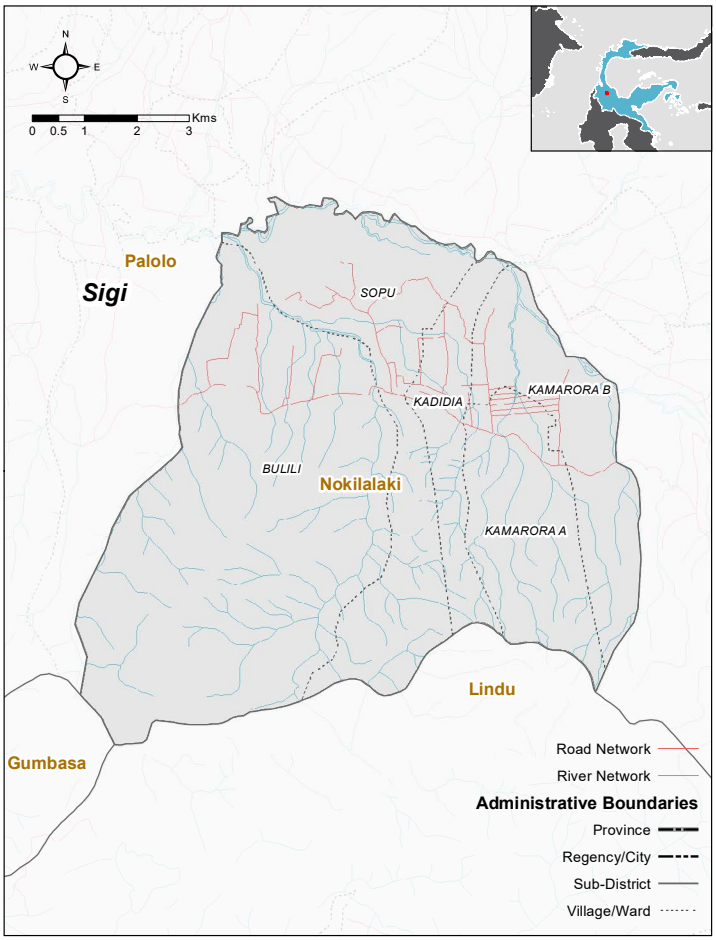
Multi-Sector Needs Assessment
Central Sulawesi Province
Sigi Regency, Nokilalaki Sub-District

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 106 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.



Respondent metadata[3]

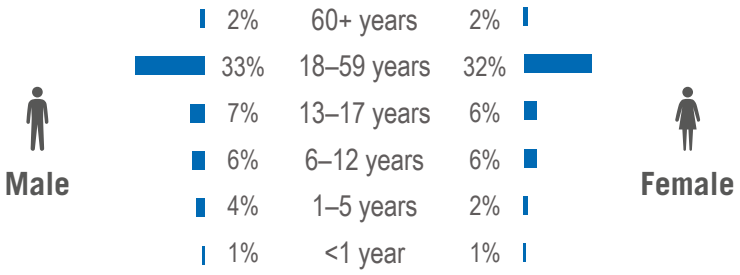
106 Total households interviewed

42 Average age of respondent in years

43% of respondents were female

Demographics

Household composition by gender and age



There was an average of **4** individuals reported per household

Head of Household

5% of heads of households were female

7% of heads of households were elderly

45 average age of the head of household in years

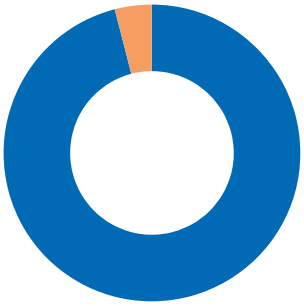
Dependency ratio[4]

0.5 average youth dependency ratio

0.1 average elderly dependency ratio

0.6 average age-dependency ratio

% of households by current living location:[5]



96% Own home

0% Shelter next to original home

0% Renting (non-displaced)

0% Renting (displaced)

4% Staying in another home that is not their own

0% Informal settlement

0% Other

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

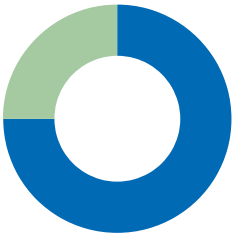
Funded by European Union Humanitarian Aid
unicef for every child
UNIVERSITAS MUHAMMADIYAH PALU
MUHAMMADIYAH UNIVERSITY OF PALU
HUMANITARIAN FORUM INDONESIA
REACH Informing more effective humanitarian action

Displacement and Protection

Displaced population[5]

4% 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:



- **75%** Nearby/on site
- **25%** Within 2km
- **0%** Between 2km–5km
- **0%** More than 5km or Don't know

Non-displaced population[5]

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

0.9 average dependency ratio of displaced household size to hosting household size for non-displaced households hosting IDPs[6]

Movement intentions in the next 6 months

% of households by where they most want to move to within the next six months:[7]

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

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:[8]

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

Protection of Women's Needs

7% 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.

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

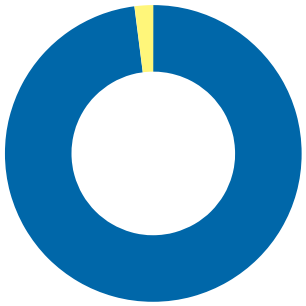
Psychosocial Support

41% of households reported having at least one member experiencing emotional distress from the disaster

Shelter

Shelter conditions

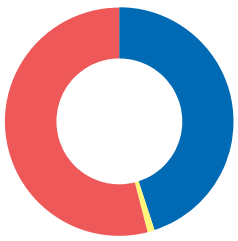
% of households by type of shelter they are currently living in at the time of data collection:



- **98%** House
- **0%** Apartment
- **0%** Transitional shelter (individual)
- **2%** Makeshift Shelter
- **0%** Tent
- **0%** Don't know
- **0%** Other

40% 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:



- **45%** Household owns the land
- **0%** Written agreement (still valid)
- **1%** Written agreement (expired)
- **54%** Verbal/no agreement[9]
- **0%** Don't know

Preferred Shelter Assistance

65% 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.

Funded by European Union Humanitarian Aid
unicef for every child
UNIVERSITAS MUHAMMADIYAH PALU
MUHAMMADIYAH UNIVERSITY OF PALU
HUMANITARIAN FORUM INDONESIA
REACH Informing more effective humanitarian action

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 — 51%
2. Shelter building materials — 31%
3. None — 21%

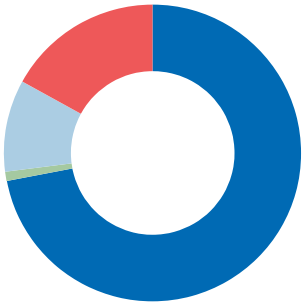
Top 3 most needed Non-Food Items (NFIs):[10]

1. Cooking utensils/kitchen set; — 81%
2. Bedding items (bedsheets, pillows); — 77%
3. Mattresses/Sleeping mats — 32%

Water, Sanitation and Hygiene

Access to Water

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

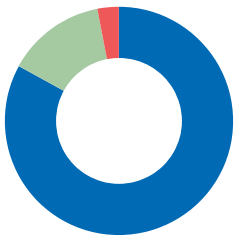


72%	Piped water
1%	Public tap
10%	Protected well/spring
0%	Water tank/trucking
0%	Bottled water
17%	Unprotected source
0%	Don't know

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

89% of households reported having enough water to meet their total needs for drinking, cooking, bathing, and washing

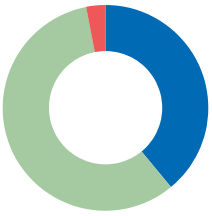
% of households by reported amount of time it takes to walk to main water source, fetch water, and return (including queuing at the water source):



83%	Water source located on site
14%	Less than 10 minutes
0%	10–20 minutes
3%	More than 20 minutes
0%	Don't know

Hygiene practices

% of households by location used for hand washing:



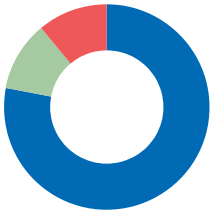
39%	Pouring device/sink faucet
58%	Basin/bucket
3%	No device
0%	Don't know

85% of households have water available for hand washing

44% of households have soap available for hand washing

Sanitation conditions

% of households by most common defecation practice:



78%	Household latrine/toilet
11%	Communal latrine/toilet
11%	Open defecation
0%	Don't know

There is an average of **7** households reported to be sharing each communal latrine[11]

Household and communal latrine conditions

77% of households with communal latrines reported their toilet had adequate lighting

0% of households with communal toilets reported that there are separate toilets for men and women

55% 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	
93%	Agricultural	1	Agricultural	92%
4%	Small business owner	2	Small business owner	5%
1%	Service industry	3	Service industry	1%

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.

Funded by European Union Humanitarian Aid
unicef for every child
UNIVERSITAS MUHAMMADIYAH PALU
MUHAMMADIYAH UNIVERSITY OF PALU
HUMANITARIAN FORUM INDONESIA
REACH Informing more effective humanitarian action

% of households reporting that the household main income was unemployment, before and after the disaster:

Before Disaster		January 2019
0%	are unemployed	0%

2% of households had at least one working-age household member that is not working

Main reported barriers to finding work:[13]

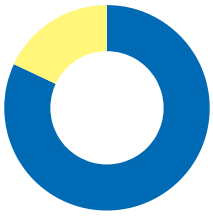
Disaster destroyed cultivation land for planting	50%
disability	50%
The recent disaster destroyed boats/fishing materials	0%

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]



82%	Acceptable
18%	Borderline
0%	Poor

average rCSI score[15]

1.1

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

Purchased with own cash	97%
Purchased on credit (debt)	2%
Gift from family or friends)	1%

Education

Student attendance

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

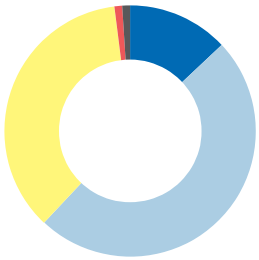
Among households where children were not attending school, there was an average of **2** child(ren) reported to not be attending school

Top 3 reported reasons why school-aged children were not attending school by households with children not attending school:[19]

1	Child not attending school before disaster	50%
2	Child needed to work for income	50%
3	Child is in the hospital	0%

Condition of school facilities

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



13%	Good condition
49%	Lightly damaged
36%	Moderately damaged
1%	Severe damage
1%	Don't know
0%	Other

Health

Immunization

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

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.

Funded by European Union Humanitarian Aid
unicef for every child
UNIVERSITAS MUHAMMADIYAH PALU
MUHAMMADIYAH UNIVERSITY OF PALU
HUMANITARIAN FORUM INDONESIA
REACH Informing more effective humanitarian action

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	52%
2	Coughing	48%
3	Other health issue	24%

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	90%
Cost of medicine/treatment too high	10%
Problems with civil documents	0%

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	65%
2	Treat health problems	27%
3	None	26%

1.2.3 Priority Needs

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

1	Food	94%
2	Kitchen ware	57%
3	Other NFIs	24%

Communication with Communities

Information Needs

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

Livelihoods	42%
Humanitarian assistance	31%
Healthcare	10%

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

Face-to-face communication (e.g. from friends)	89%
Telephone/mobile phone (Voice Call)	5%
Television	5%

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]

1	Food	92%
2	Education	8%
3	Health	0%

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

Government distribution	92%
PMI (Indonesian Red Cross)	8%
Private Company	0%

92% 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.

Funded by European Union Humanitarian Aid
unicef for every child
UNIVERSITAS MUHAMMADIYAH PALU
MUHAMMADIYAH UNIVERSITY OF PALU
HUMANITARIAN FORUM INDONESIA
REACH Informing more effective humanitarian action

Multi-Sector Needs Assessment
Central Sulawesi Province
Sigi Regency, Palolo Sub-District

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 120 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.

Respondent metadata[3]

120	Total households interviewed
43	Average age of respondent in years
42%	of respondents were female

Demographics

Household composition by gender and age

There was an average of **4** individuals reported per household

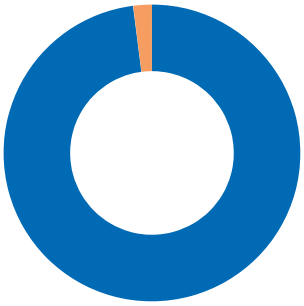
Head of Household

3%	of heads of households were female
7%	of heads of households were elderly
46	average age of the head of household in years

Dependency ratio[4]

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

% of households by current living location:[5]



98%	Own home
0%	Shelter next to original home
0%	Renting (non-displaced)
0%	Renting (displaced)
2%	Staying in another home that is not their own
0%	Informal settlement
0%	Other

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

Funded by European Union Humanitarian Aid
unicef for every child
UNIVERSITAS MUHAMMADIYAH PALU
MUHAMMADIYAH UNIVERSITY OF PALU
HUMANITARIAN FORUM INDONESIA
REACH Informing more effective humanitarian action

Displacement and Protection

Displaced population[5]

2% 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:

33%	Nearby/on site
0%	Within 2km
0%	Between 2km–5km
67%	More than 5km or Don't know

Non-displaced population[5]

1% 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

0 average dependency ratio of displaced household size to hosting household size for non-displaced households hosting IDPs[6]

Movement intentions in the next 6 months

% of households by where they most want to move to within the next six months:[7]

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

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:[8]

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

Protection of Women's Needs

2% 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.

Disabilities, Elderly, Minorities

1% 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

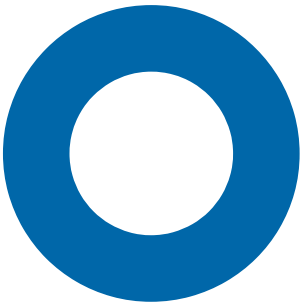
Psychosocial Support

30% of households reported having at least one member experiencing emotional distress from the disaster

Shelter

Shelter conditions

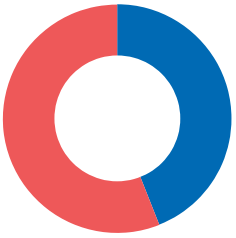
% of households by type of shelter they are currently living in at the time of data collection:



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

31% 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:



44%	Household owns the land
0%	Written agreement (still valid)
0%	Written agreement (expired)
56%	Verbal/no agreement[9]
0%	Don't know

Preferred Shelter Assistance

56% 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.

Funded by European Union Humanitarian Aid
unicef for every child
UNIVERSITAS MUHAMMADIYAH PALU
MUHAMMADIYAH UNIVERSITY OF PALU
HUMANITARIAN FORUM INDONESIA
REACH Informing more effective humanitarian action

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 — 51%
2. Shelter building materials — 35%
3. None — 23%

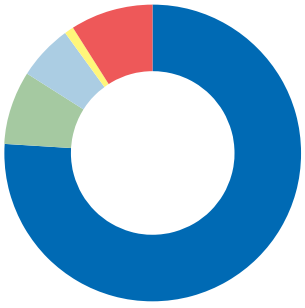
Top 3 most needed Non-Food Items (NFIs):[10]

1. Cooking utensils/kitchen set; — 88%
2. Bedding items (bedsheets, pillows); — 75%
3. Mattresses/Sleeping mats — 32%

Water, Sanitation and Hygiene

Access to Water

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

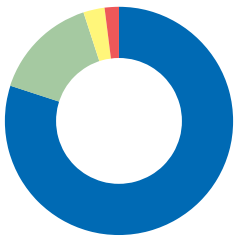


76%	Piped water
8%	Public tap
6%	Protected well/spring
0%	Water tank/trucking
1%	Bottled water
9%	Unprotected source
0%	Don't know

93% 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

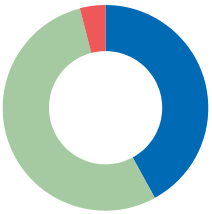
% of households by reported amount of time it takes to walk to main water source, fetch water, and return (including queuing at the water source):



80%	Water source located on site
15%	Less than 10 minutes
3%	10–20 minutes
2%	More than 20 minutes
0%	Don't know

Hygiene practices

% of households by location used for hand washing:



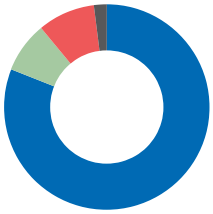
42%	Pouring device/sink faucet
54%	Basin/bucket
4%	No device
0%	Don't know

88% of households have water available for hand washing

43% of households have soap available for hand washing

Sanitation conditions

% of households by most common defecation practice:



81%	Household latrine/toilet
8%	Communal latrine/toilet
9%	Open defecation
2%	Don't know

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

Household and communal latrine conditions

80% of households with communal latrines reported their toilet had adequate lighting

0% of households with communal toilets reported that there are separate toilets for men and women

41% 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	
92%	Agricultural	1	Agricultural	92%
2%	Small business owner	2	Small business owner	2%
2%	Service industry	3	Service industry	2%

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.

Funded by European Union Humanitarian Aid
unicef for every child
UNIVERSITAS MUHAMMADIYAH PALU
MUHAMMADIYAH UNIVERSITY OF PALU
HUMANITARIAN FORUM INDONESIA
REACH Informing more effective humanitarian action

% of households reporting that the household main income was unemployment, before and after the disaster:

Before Disaster		January 2019
0%	are unemployed	1%

0% of households had at least one working-age household member that is not working

Main reported barriers to finding work:[13]

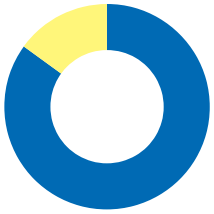
NA	0%
NA	0%
NA	0%

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]



85%	Acceptable
15%	Borderline
0%	Poor

average rCSI score[15]

1.5

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

Purchased with own cash	100%
Don't know	0%
Purchased with cash assistance	0%

Education

Student attendance

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

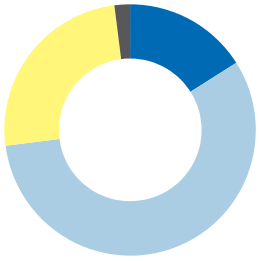
Among households where children were not attending school, there was an average of **1** child(ren) reported to not be attending school

Top 3 reported reasons why school-aged children were not attending school by households with children not attending school:[19]

1	Fear of school collapsing	57%
2	Child not attending school before disaster	29%
3	Teachers have been displaced, died, are in hospital or are missing	14%

Condition of school facilities

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



16%	Good condition
57%	Lightly damaged
25%	Moderately damaged
0%	Severe damage
2%	Don't know
0%	Other

Health

Immunization

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

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.

Funded by European Union Humanitarian Aid
unicef for every child
UNIVERSITAS MUHAMMADIYAH PALU
MUHAMMADIYAH UNIVERSITY OF PALU
HUMANITARIAN FORUM INDONESIA
REACH Informing more effective humanitarian action

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	56%
2	Other health issue	24%
3	Coughing	20%

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	72%
Cost of medicine/treatment too high	24%
No information where health facilities are	4%

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	55%
2	None	39%
3	Treat health problems	19%

1.2.3 Priority Needs

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

1	Food	83%
2	Kitchen ware	67%
3	Shelter support	29%

Communication with Communities

Information Needs

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

Livelihoods	37%
Humanitarian assistance	36%
Water services	14%

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

Face-to-face communication (e.g. from friends)	98%
Telephone/mobile phone (Voice Call)	2%
Don't know	0%

Humanitarian assistance

2% 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	100%
2	host housing	0%
3	Shelter design	0%

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

Government distribution	67%
Religious Organization	33%
Private Company	0%

33% 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.

Funded by European Union Humanitarian Aid
unicef for every child
UNIVERSITAS MUHAMMADIYAH PALU
MUHAMMADIYAH UNIVERSITY OF PALU
HUMANITARIAN FORUM INDONESIA
REACH Informing more effective humanitarian action

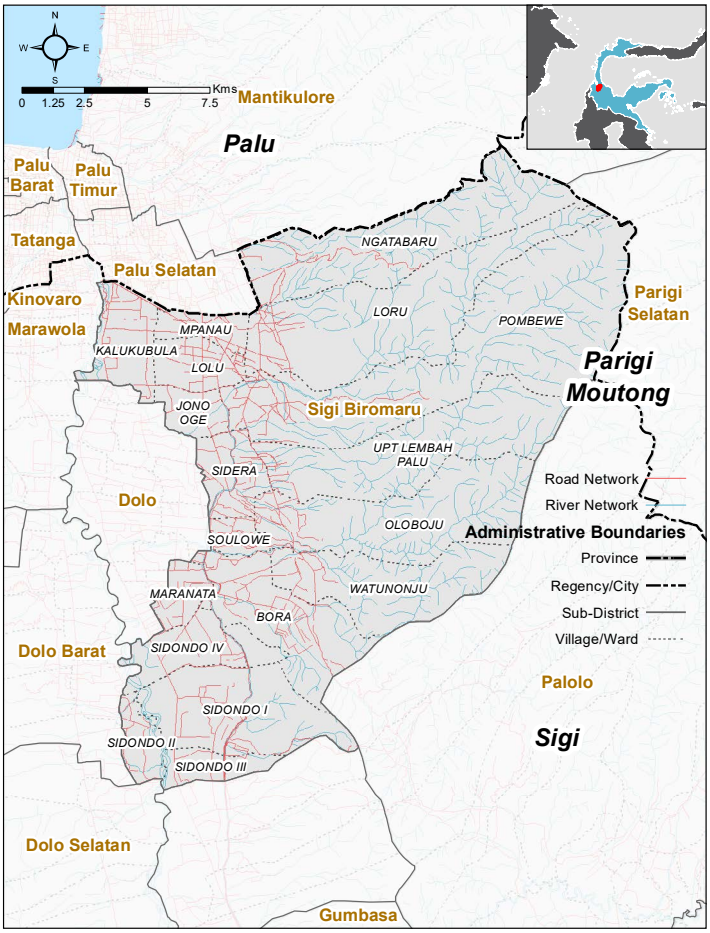
Multi-Sector Needs Assessment
Central Sulawesi Province
Sigi Regency, Sigi Biromaru Sub-District

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 127 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.



Respondent metadata[3]

127	Total households interviewed
40	Average age of respondent in years
65%	of respondents were female

Demographics

Household composition by gender and age

There was an average of **4** individuals reported per household

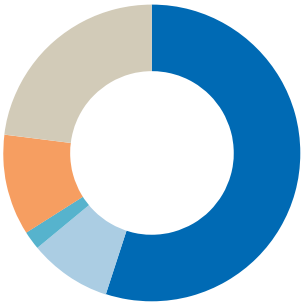
Head of Household

6%	of heads of households were female
12%	of heads of households were elderly
44	average age of the head of household in years

Dependency ratio[4]

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

% of households by current living location:[5]



55%	Own home
9%	Shelter next to original home
2%	Renting (non-displaced)
0%	Renting (displaced)
11%	Staying in another home that is not their own
23%	Informal settlement
0%	Other

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

Funded by European Union Humanitarian Aid
unicef for every child
UNIVERSITAS MUHAMMADIYAH PALU
MUHAMMADIYAH UNIVERSITY OF PALU
HUMANITARIAN FORUM INDONESIA
REACH Informing more effective humanitarian action

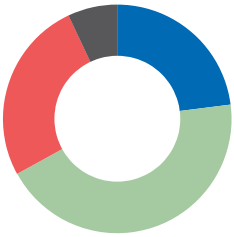
Multi-Sector Needs Assessment
Central Sulawesi Province
Sigi Regency, Sigi Biromaru Sub-District

Displacement and Protection

Displaced population[5]

43% 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:



- **23%** Nearby/on site
- **44%** Within 2km
- **26%** Between 2km–5km
- **7%** More than 5km or Don't know

Non-displaced population[5]

7% 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[6]

Movement intentions in the next 6 months

% of households by where they most want to move to within the next six months:[7]

Remain in the current location	73%
Move to a new location	13%
Don't know	7%

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:[8]

1	House destroyed/ severely damaged	60%
2	Heavy damage to house	36%
3	Area may be declared a no build (red) zone	32%

Protection of Women's Needs

20% 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.

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

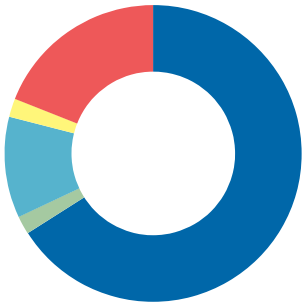
Psychosocial Support

75% of households reported having at least one member experiencing emotional distress from the disaster

Shelter

Shelter conditions

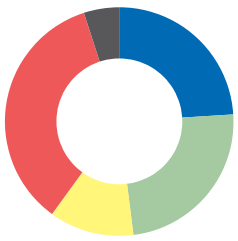
% of households by type of shelter they are currently living in at the time of data collection:



- **66%** House
- **2%** Apartment
- **11%** Transitional shelter (individual)
- **2%** Makeshift Shelter
- **19%** Tent
- **0%** Don't know
- **0%** Other

87% 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:



- **24%** Household owns the land
- **24%** Written agreement (still valid)
- **12%** Written agreement (expired)
- **35%** Verbal/no agreement[9]
- **5%** Don't know

Preferred Shelter Assistance

61% 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.

Funded by European Union Humanitarian Aid
unicef for every child
UNIVERSITAS MUHAMMADIYAH PALU
MUHAMMADIYAH UNIVERSITY OF PALU
HUMANITARIAN FORUM INDONESIA
REACH Informing more effective humanitarian action

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 — 65%
2. Assistance to build/repair shelter — 61%
3. Construction labor — 26%

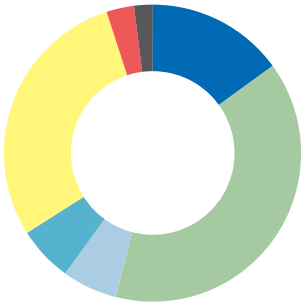
Top 3 most needed Non-Food Items (NFIs):[10]

1. Cooking utensils/kitchen set; — 54%
2. Mattresses/Sleeping mats — 50%
3. Cooking stove — 39%

Water, Sanitation and Hygiene

Access to Water

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

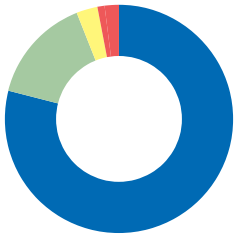


- 15% Piped water
- 39% Public tap
- 6% Protected well/spring
- 6% Water tank/trucking
- 29% Bottled water
- 3% Unprotected source
- 2% Don't know

94% of households reported drinking water that had been treated and was safe to drink

84% of households reported having enough water to meet their total needs for drinking, cooking, bathing, and washing

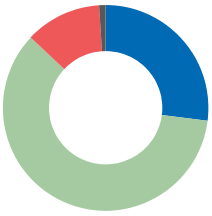
% of households by reported amount of time it takes to walk to main water source, fetch water, and return (including queuing at the water source):



- 79% Water source located on site
- 15% Less than 10 minutes
- 3% 10–20 minutes
- 1% More than 20 minutes
- 2% Don't know

Hygiene practices

% of households by location used for hand washing:



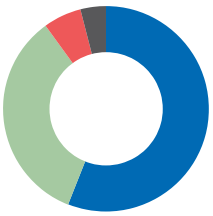
- 27% Pouring device/sink faucet
- 60% Basin/bucket
- 12% No device
- 1% Don't know

97% 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:



- 56% Household latrine/toilet
- 34% Communal latrine/toilet
- 6% Open defecation
- 4% Don't know

There is an average of **16** households reported to be sharing each communal latrine[11]

Household and communal latrine conditions

87% 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

87% 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	
1	Agricultural	37%	Agricultural	26%
2	Construction	12%	Unemployed	17%
3	Small business owner	10%	Small business owner	10%

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.

Funded by European Union Humanitarian Aid
unicef for every child
UNIVERSITAS MUHAMMADIYAH PALU
MUHAMMADIYAH UNIVERSITY OF PALU
HUMANITARIAN FORUM INDONESIA
REACH Informing more effective humanitarian action

% of households reporting that the household main income was unemployment, before and after the disaster:

Before Disaster		January 2019
2%	are unemployed	17%

13% of households had at least one working-age household member that is not working

Main reported barriers to finding work:[13]

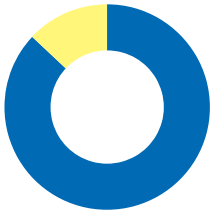
Disaster destroyed cultivation land for planting	31%
Disaster destroyed business/job opportunities	25%
Underqualified for available jobs	19%

There is an average reported loss of **20%** 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]



87%	Acceptable
13%	Borderline
0%	Poor

average rCSI score[15]

3.5

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

Purchased with own cash	80%
Food assistance (government)	9%
Food assistance (charity, private company)	6%

Education

Student attendance

2% of households with children reported having school-aged children who were not attending school following the disaster

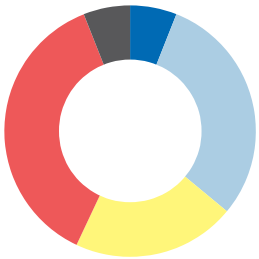
Among households where children were not attending school, there was an average of **1** child(ren) reported to not be attending school

Top 3 reported reasons why school-aged children were not attending school by households with children not attending school:[19]

1	Other	50%
2	Child needed for houshold chores	33%
3	Fear of school collapsing	33%

Condition of school facilities

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



6%	Good condition
30%	Lightly damaged
21%	Moderately damaged
37%	Severe damage
6%	Don't know
0%	Other

Health

Immunization

46% of households reported having children in the household that were not immunized for measles, mumps, and rhubella (MMR).

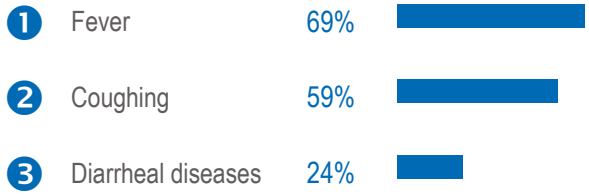
Illness and injury

59% 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

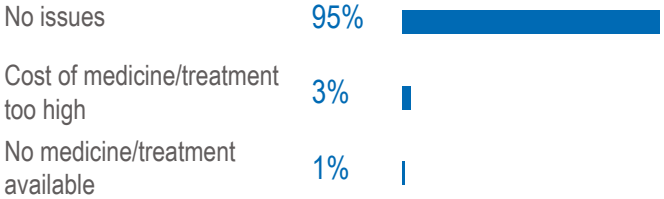
13. Due to the sensitivity over asking about monthly income, respondents were asked what range their monthly income fell within. The upper bound of the range was used, and current income was divided by previous income before being averaged.
14. FCS is a measure of food security that looks at how often 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.

Funded by European Union Humanitarian Aid
unicef for every child
UNIVERSITAS MUHAMMADIYAH PALU
MUHAMMADIYAH UNIVERSITY OF PALU
HUMANITARIAN FORUM INDONESIA
REACH Informing more effective humanitarian action

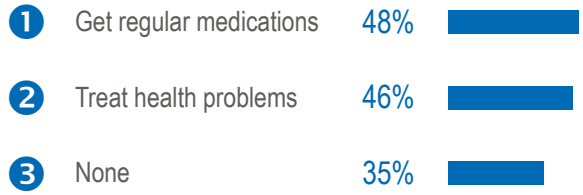
Top 3 types of health concerns reported by households with a member who had suffered from health issues in the 30 days prior to data collection:[18]



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

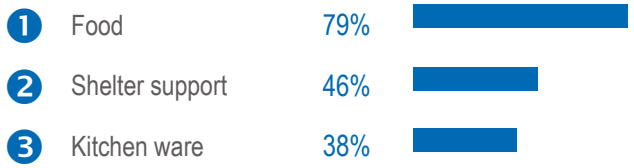


Main reasons (if any) that households have had to access health services in the 30 days prior to data collection:[20]



1.2.3 Priority Needs

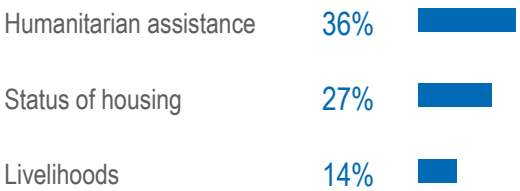
Top 3 most important priority needs as reported by households:[20]



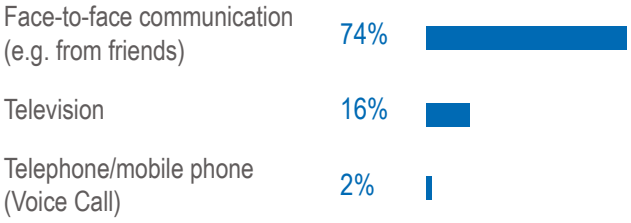
Communication with Communities

Information Needs

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



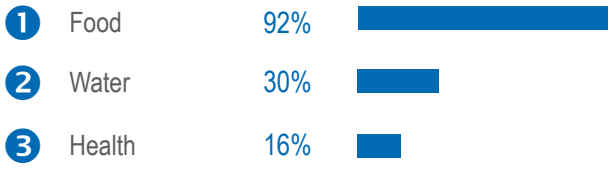
% of households by most preferred source from which they would like to receive new information:[19]



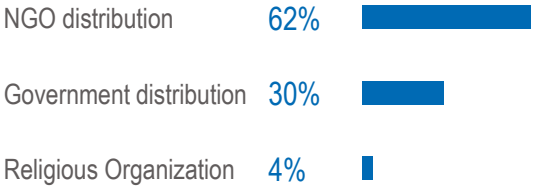
Humanitarian assistance

39% 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]



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



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.

Funded by European Union Humanitarian Aid
unicef for every child
UNIVERSITAS MUHAMMADIYAH PALU
MUHAMMADIYAH UNIVERSITY OF PALU
HUMANITARIAN FORUM INDONESIA
REACH Informing more effective humanitarian action

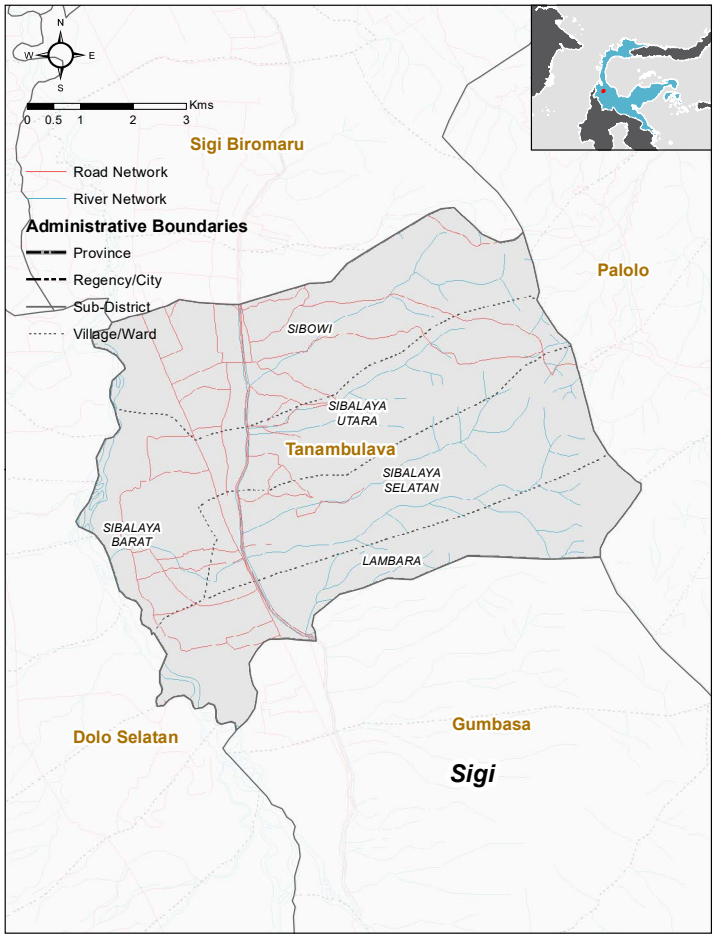
Multi-Sector Needs Assessment
Central Sulawesi Province
Sigi Regency, Tanambulava Sub-District

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 109 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.

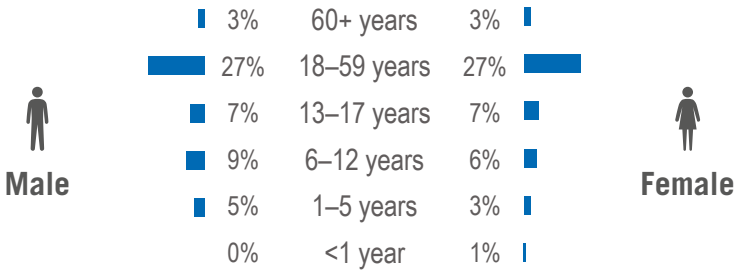


Respondent metadata[3]

109	Total households interviewed
43	Average age of respondent in years
64%	of respondents were female

Demographics

Household composition by gender and age



There was an average of **5** individuals reported per household

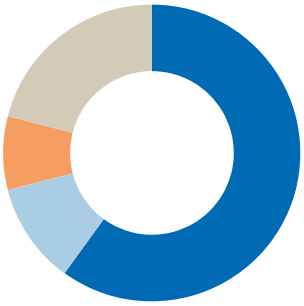
Head of Household

14%	of heads of households were female
15%	of heads of households were elderly
46	average age of the head of household in years

Dependency ratio[4]

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

% of households by current living location:[5]



60%	Own home
11%	Shelter next to original home
0%	Renting (non-displaced)
0%	Renting (displaced)
8%	Staying in another home that is not their own
21%	Informal settlement
0%	Other

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

Funded by European Union Humanitarian Aid
unicef for every child
UNIVERSITAS MUHAMMADIYAH PALU
MUHAMMADIYAH UNIVERSITY OF PALU
HUMANITARIAN FORUM INDONESIA
REACH Informing more effective humanitarian action

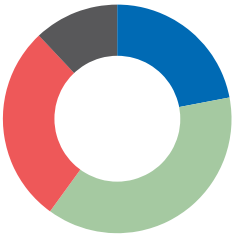
Multi-Sector Needs Assessment
Central Sulawesi Province
Sigi Regency, Tanambulava Sub-District

Displacement and Protection

Displaced population[5]

40% 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:



- **22%** Nearby/on site
- **38%** Within 2km
- **28%** Between 2km–5km
- **12%** More than 5km or Don't know

Non-displaced population[5]

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[6]

Movement intentions in the next 6 months

% of households by where they most want to move to within the next six months:[7]

Remain in the current location	80%
Move into the Government Transitional Shelter	9%
Return back to original home	6%

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:[8]

1 House destroyed/ severely damaged	71%
2 Heavy damage to house	39%
3 Area may be declared a no build (red) zone	33%

Protection of Women's Needs

19% 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.

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

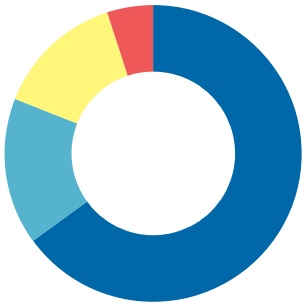
Psychosocial Support

67% of households reported having at least one member experiencing emotional distress from the disaster

Shelter

Shelter conditions

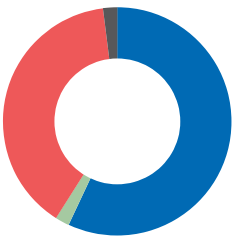
% of households by type of shelter they are currently living in at the time of data collection:



- **65%** House
- **0%** Apartment
- **16%** Transitional shelter (individual)
- **14%** Makeshift Shelter
- **5%** Tent
- **0%** Don't know
- **0%** Other

85% 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:



- **57%** Household owns the land
- **2%** Written agreement (still valid)
- **0%** Written agreement (expired)
- **39%** Verbal/no agreement[9]
- **2%** Don't know

Preferred Shelter Assistance

76% 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.

Funded by European Union Humanitarian Aid
unicef for every child
UNIVERSITAS MUHAMMADIYAH PALU
MUHAMMADIYAH UNIVERSITY OF PALU
HUMANITARIAN FORUM INDONESIA
REACH Informing more effective humanitarian action

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 — 72%
2. Shelter building materials — 67%
3. Construction labor — 15%

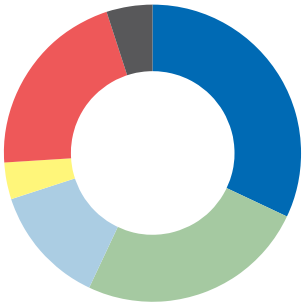
Top 3 most needed Non-Food Items (NFIs):[10]

1. Cooking utensils/kitchen set; — 79%
2. Bedding items (bedsheets, pillows); — 55%
3. Mattresses/Sleeping mats — 52%

Water, Sanitation and Hygiene

Access to Water

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

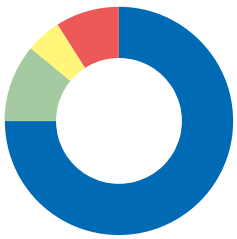


32%	Piped water
25%	Public tap
13%	Protected well/spring
0%	Water tank/trucking
4%	Bottled water
21%	Unprotected source
5%	Don't know

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

75% of households reported having enough water to meet their total needs for drinking, cooking, bathing, and washing

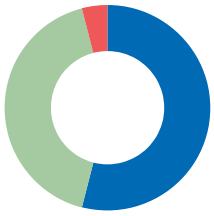
% of households by reported amount of time it takes to walk to main water source, fetch water, and return (including queuing at the water source):



75%	Water source located on site
11%	Less than 10 minutes
5%	10–20 minutes
9%	More than 20 minutes
0%	Don't know

Hygiene practices

% of households by location used for hand washing:



54%	Pouring device/sink faucet
42%	Basin/bucket
4%	No device
0%	Don't know

91% of households have water available for hand washing

57% of households have soap available for hand washing

Sanitation conditions

% of households by most common defecation practice:

35%	Household latrine/toilet
41%	Communal latrine/toilet
24%	Open defecation
0%	Don't know

There is an average of **14** households reported to be sharing each communal latrine[11]

Household and communal latrine conditions

71% of households with communal latrines reported their toilet had adequate lighting

5% of households with communal toilets reported that there are separate toilets for men and women

72% 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		
56%	Agricultural	1	Agricultural	39%
13%	Vocational profession	2	Unemployed	30%
7%	Unemployed	3	Vocational profession	12%

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.

Funded by European Union Humanitarian Aid
unicef for every child
UNIVERSITAS MUHAMMADIYAH PALU
MUHAMMADIYAH UNIVERSITY OF PALU
HUMANITARIAN FORUM INDONESIA
REACH Informing more effective humanitarian action

% of households reporting that the household main income was unemployment, before and after the disaster:

Before Disaster		January 2019
7%	are unemployed	30%

23% of households had at least one working-age household member that is not working

Main reported barriers to finding work:[13]

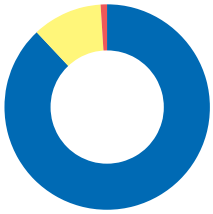
Disaster destroyed cultivation land for planting	40%
Disaster destroyed business/job opportunities	40%
disability	12%

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]



88%	Acceptable
11%	Borderline
1%	Poor

average rCSI score[15]

5.9

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

Purchased with own cash	80%
Food assistance (government)	13%
Food assistance (charity, private company)	6%

Education

Student attendance

6% of households with children reported having school-aged children who were not attending school following the disaster

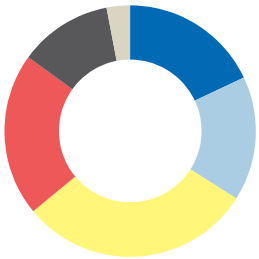
Among households where children were not attending school, there was an average of **1** child(ren) reported to not be attending school

Top 3 reported reasons why school-aged children were not attending school by households with children not attending school:[19]

1	School fees too expensive	60%
2	Child needed for houshold chores	60%
3	Child needed to work for income	40%

Condition of school facilities

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



18%	Good condition
16%	Lightly damaged
30%	Moderately damaged
21%	Severe damage
12%	Don't know
3%	Other

Health

Immunization

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

Illness and injury

59% 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.

Funded by European Union Humanitarian Aid
unicef for every child
UNIVERSITAS MUHAMMADIYAH PALU
MUHAMMADIYAH UNIVERSITY OF PALU
HUMANITARIAN FORUM INDONESIA
REACH Informing more effective humanitarian action

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	55%
2	Fever	50%
3	Hypertension	17%

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	66%
Cost of medicine/treatment too high	22%
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	Treat health problems	49%
2	None	39%
3	Get regular medications	32%

1.2.3 Priority Needs

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

1	Food	84%
2	Shelter support	51%
3	Kitchen ware	34%

Communication with Communities

Information Needs

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

Status of housing	45%
Humanitarian assistance	38%
Livelihoods	16%

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

Face-to-face communication (e.g. from friends)	75%
Television	21%
Loud speakers	2%

Humanitarian assistance

52% 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	86%
2	Tents	21%
3	Other NFIs	19%

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

Government distribution	56%
NGO distribution	14%
Religious Organization	12%

68% 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.

Funded by European Union Humanitarian Aid
unicef for every child
UNIVERSITAS MUHAMMADIYAH PALU
MUHAMMADIYAH UNIVERSITY OF PALU
HUMANITARIAN FORUM INDONESIA
REACH Informing more effective humanitarian action