



Humanitarian Aid
and Civil Protection



SHELTER SECTOR, COX'S BAZAR
SHELTER STANDARD ASSESSMENT
SURVEY ANALYSIS: SEPTEMBER 2021



Introduction

The total number of Rohingya refugees in Cox's Bazar is around 877,710 individuals.† The Rohingya refugee population is concentrated in extremely congested camps within Ukhiya and Teknaf Upazilas of Cox's Bazar district, Bangladesh. The refugees living in the camps are dependent on the assistance provided by the humanitarian community and government of Bangladesh. The reliance on humanitarian assistance has been heightened since the COVID-19 outbreak in Bangladesh due to movement restrictions and containment measures that are being implemented in the camps in an attempt to control the spread of the virus. The restrictive measures have impacted humanitarian programmes - many were reduced to critical services and assistance only with a limited number of staffs allowed to access the camps each day. This has negatively affected the accessibility and availability of many services.

Population of interest

All Rohingya refugees residing in the camps and settlements recognised by Inter Sector Coordination Group (ISCG), RRRC in Cox's Bazar, Bangladesh.

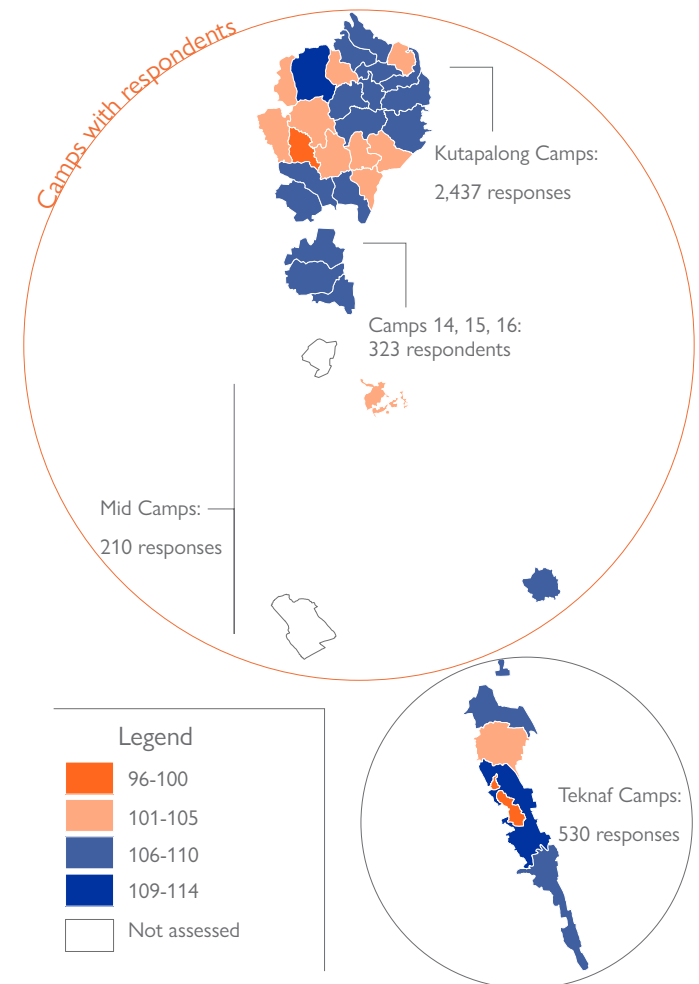
Assessment Design

The goal of the Shelter/NFI Sector is to ensure that every refugee household has access to protection-focused, culturally appropriate Shelter/NFI solutions that provide privacy, security, protection from the elements, reduced exposure to hazards, tenure security, and space to store belongings and live in a dignified manner. To set a benchmark for shelter quality, the SNFI Sector and partners developed Shelter Performance Standards in 2019. The Shelter Performance Standards were approved by the RRRC on 6 January 2020 and consist of two tiers.

1. The first tier is defined as Minimum Performance Standards. There are 19 minimum performance standards, applicable for all shelter upgrades, repairs, maintenance and shelter replacements in the areas that are not re-developed or newly-developed (TSA I, TSA II, repairs and maintenance, other shelter responses)
 2. The second tier is defined as Desired Performance Standards. To meet the Desired Performance Standards all Minimum Performance Standards should also be met. Whenever possible, Desired Performance Standards should be met. Applicable for all shelter construction in re-developed and newly-developed areas
- All the shelters developed in those areas need to follow RRRC approved designs
 - Only shelters built in accordance with the Desired Performance Standards and approved RRRC designs can be considered as mid-term shelters (MTS)

Given the focus on Sector-driven Minimum Performance Standards and Desired Performance Standards, the measurement approach for each minimum standard was jointly discussed and refined between the assessment teams and shelter experts to ensure feasibility and accuracy. In the event that certain standards are either subjective, seasonal, or require specialized expertise, the SNFI Sector proposed proxies for the standard or, if the standard is deemed not possible to be measured through this exercise, SNFI Sector partners agreed on a reweighted scale for analysis purposes.

Respondents by camp cluster



†UNHCR-Government of Bangladesh Population Breakdown, March 2021

Methodology

A stratified simple random sampling approach was adopted for this assessment to provide results generalizable at camp level with a 95% confidence level and 10% margin of error. To achieve representativeness at camp level, the population count conducted by RRRC and UNHCR was used to create samples for each camp. Overall, 3,500 surveys were administered in 33 camps.

The assessment adopted a mixed method approach which included direct observations and measurements of shelter structures followed by a short quantitative questionnaire. Data collection took place during January-March 2021 and it was conducted jointly by IOM-NPM and REACH Initiative.

Tool Development and Data Collection

The tool for data collection was developed by the Shelter/NFI Sector. NPM and REACH provided technical support to transform the tool into a format supported for digital data collection. Kobo collect platform was used for data collection. The tool was also translated into Rohingya/Bengali by Shelter/NFI Sector partners and verified by NPM/REACH.

Due to the technical nature of the assessment, a four-day training was held for enumerators. Enumerators were trained by Shelter/NFI Sector partners on standards and methodology of the assessment. The objectives and questionnaire were discussed in detail, followed by a practical field test and pilot. The enumerators were supervised by the SNFI partners during field test and pilot.

Sampling

As aforementioned, the assessment consisted of a stratified random sample, with the aim that every shelter in the 33 camps in Ukhiya and Teknaf have an equal chance to get selected for the survey. The sample size of each camp was derived from a sample frame based on the RRRC and UNHCR population count data, which will aim to produce results that can be generalized to 95% confidence level and 10% margin of error.

The ISCG and RRRC recognized camp boundaries were laid on Open Street Map (OSM) shelter footprints to generate random sample points for administering surveys. An estimated buffer was added to the sample points to cover for non-eligible geo-points, non-eligible households/shelter/facilities and non-consenting households or households without eligible respondents (i.e. only consisting of respondents below 18).

Data Processing and Analysis

IOM-NPM data unit was responsible for data cleaning such as survey durations, inconsistencies, outliers and translations as well as recoding of other options. Changes were made after consultation of issues with the operations team and enumerators conducting the surveys. All personal identifiers in the surveys were removed due to the sensitive nature of the data. The clean dataset was shared with the Shelter/NFI Sector for validation.


IOM-NPM also developed the data analysis plan in consultation with the SNFI Sector and executed analysis for the assessment.

Limitations and Caveats

- The majority (65%) of the respondents are female. This is because the surveys were conducted during the day when more women are available at home, as men are most likely engaged in income-generating activities. Hence, a 50:50 ratio could not be achieved for the perception-based questions in the survey.
- Some of the questions were answered by enumerators through direct observation. Hence the accuracy of these answers depends on the perception and interpretation of the enumerators. For example, questions on safety and perception were answered through direct observation.
- Answers on perception-based questions are subject to biases. Some indicators may be over or under-reported based on the perceptions of respondents. Hence, it is necessary to take these biases into consideration while interpreting the data.
- One respondent represented one household and may not reflect the opinions of every household member.
- There is no available data from previous years to make comparative analysis of the findings from this assessment. The data from this assessment should be considered as a baseline for future assessment and other comparative analysis.
- Technical aspects of the shelter construction were observed and assessed by the enumerators, acknowledging that family members present in the shelter may not have technical knowledge. Enumerators were trained by the SNFI Sector partners on the technical assessment.

Demographics of respondents


35% of respondents are male



Average age of respondent: 35.8



65% of respondents are female




90% of respondents are married



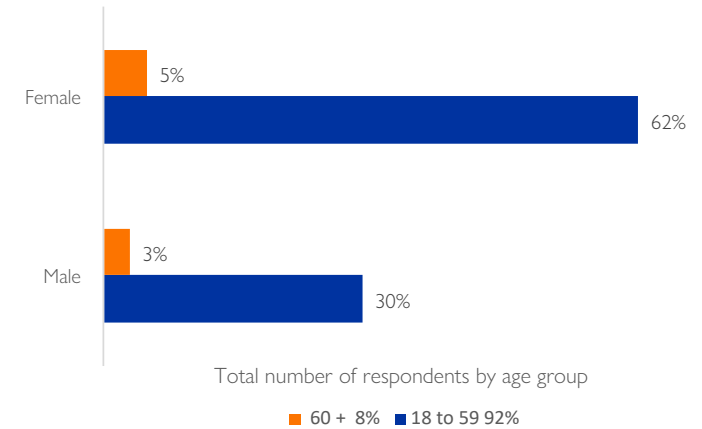
Average household size 5.6



60% of respondents reported that they arrived to their shelters in 2017



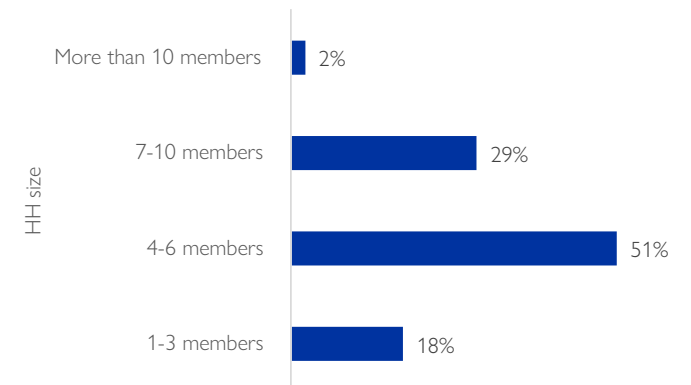
Two age group of respondents, by gender



Washington Group Question †

- 19% of respondents reported having household members who have difficulty seeing, even if wearing glasses, compared to the rest 81% who reported no difficulty.
- 9% of respondents reported having household members who have difficulty hearing, even if using an aid, compared to the rest 91% who reported no difficulty.
- 20% of respondents reported having household members who have difficulty walking or climbing steps, compared to 80% who reported no difficulty.
- 11% of respondents reported having household members who have difficulty remembering or concentrating, compared to 89% who reported no difficulty.
- 10% of respondents reported having household members who have difficulty with self-care, such as washing or dressing, compared to 90% who reported no difficulty.
- 3% of respondents reported having household members who have difficulty communicating using usual (customary/ day-to-day) language, compared to 97% who reported no difficulty.

Size of the surveyed HH



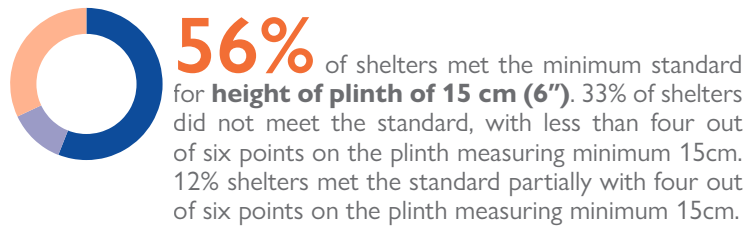
† The short Washington Group Question (WGQ) set was used in this assessment that consists of five questions. Respondents were asked to report on household members over the age of 5 years for the WGQ. Please note that these percentages are based on self-reporting and likely to be underreported.

Overview

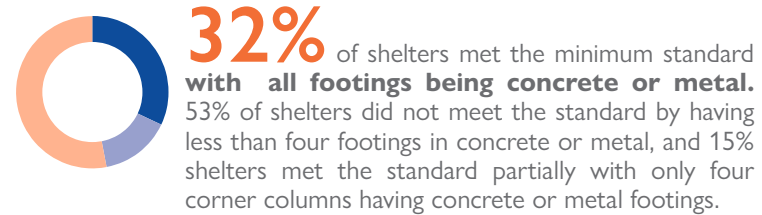
The Shelter/NFI Sector initiated the assessment to assess the state of the shelters in all camps against the agreed Shelter Performance standards, approved by the RRRC in January 2020 and can be found in the Shelter/NFI Sector Working Paper 2020-2022 and on the SNFI Sector website. Below are the findings for all questions related to the minimum performance standard.

Minimum performance standards that was met/unmet

- Met the minimum standard
- Met the minimum standard partially
- Did not meet the minimum standard
- Did not know



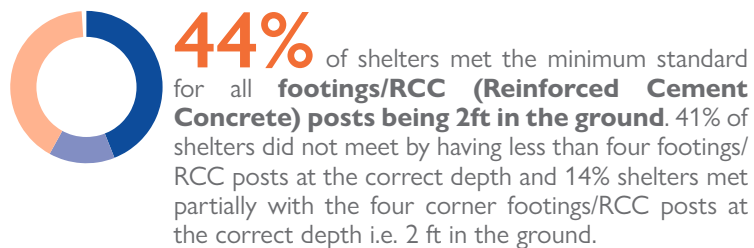
Kutupalong Registered Camp (KRC) (75%) had the highest proportion of shelters that met the minimum standard and Camp 26 (41%) had the lowest proportion of shelter that met this standard.



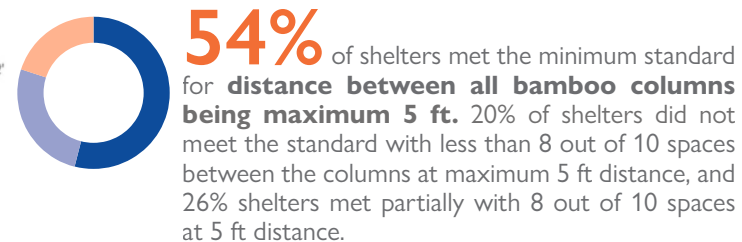
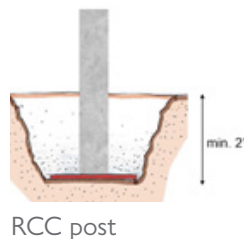
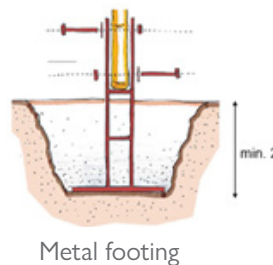
Camp 4 EXT (72%) had the highest proportion of shelters that met the minimum standards for footings being concrete or metal and Camp 3 (2%) had the lowest proportion that met this standard.



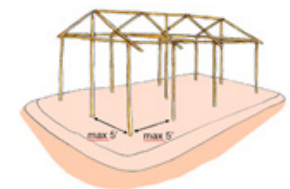
Footings made of concrete or metal to keep bamboo structure out of the ground



Camp 4 EXT (71%) had the highest proportion that met the minimum standard and camp 2W and camp 26 (10%) had the lowest proportion that met this standard.



Camp 4 EXT (91%) had the highest proportion of shelters that met the minimum standard and Nayapara Registered Camp (NRC) (19%) had the lowest proportion that met this standard.

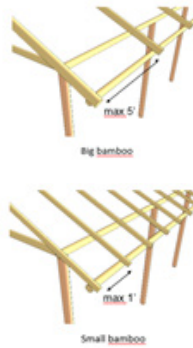


Distance between bamboo column-max 5ft (152cm)

Minimum performance standards that was met/unmet

62% of shelters met the minimum standard for **distance between all the bamboo rafters maximum 5ft (152cm) for big bamboo / 1ft (30cm) for small bamboo**. 22% of shelters did not meet the standard with less than 80% of spaces with the correct distance, and 16% shelters met partially with 80% spaces between rafters at the correct distance.

Camp 21 (83%) had the highest proportion of shelters that met the minimum standard and camp 17 and camp 9 (47%) had the lowest proportion that met this standard.



Distance between bamboo rafter- max 5ft (152cm) for big bamboo/1ft (30cm) for small bamboo

51% of shelters met the minimum standard for **distance between all purlins as maximum 1 ft**. 32% of shelters did not with less than 80% spaces between purlins as maximum 1 ft, and 17% shelters met the standard partially, with 80% purlins at maximum 1 ft.

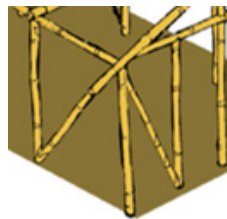
Camp 8E (82%) had the highest proportion of shelters that met the minimum standard and NRC (26%) had the lowest proportion that met this standard.



Distance between purlins is less than 1ft (30cm)

8% of shelters met the minimum standard for **having adequate bracing in all corner bays of the shelter**. 89% of shelters did not meet the standard, with less than three corners having adequate bracing. 3% shelters met the standard partially with three out of four corners with bracing.

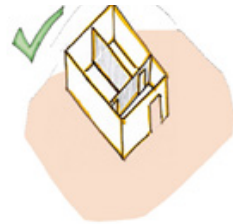
Camp 4 EXT (77%) had the highest proportion of shelters that met the minimum standards and camp 3, 15 and 24 (0%) had the lowest proportion that met this standard.



Shelter having bracing in all corner

57% of shelters met the minimum standard for **at least one internal partition wall to provide privacy (6 ft with door)**. 12% of shelters did not (if there is no partition or if the partition is less than 5' with no door) and 31% shelters met partially (if the partition is 5' with or without door).

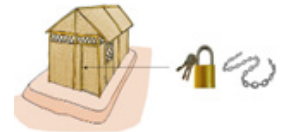
Kutupalong Registered Camp (77%) had the highest proportion of shelters that met the minimum standard and Camp 26 (40%) had the lowest proportion that met this standard.



Having at least one partition wall to provide privacy

79% of shelters met the minimum standard **to be lockable from inside and outside using a padlock and chain**. 12% of shelters did not meet the standard by not being lockable from inside and outside, and 9% shelters met the standard partially by being lockable only from the inside with a latch.

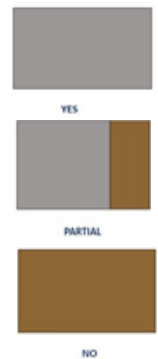
KRC (92%) had the highest proportion of shelters that met the minimum standard and camp 17 (63%) had the lowest proportion that met this standard.



Shelter is lockable from inside and outside using padlock and chain

48% of shelters met the minimum standard of **having a floor with top layer finished with cement that is complete and does not have holes or excessive damages**. 27% of shelters did not meet the standard with less than 3/4th of the floor with a cement top layer. 25% of shelters met the standard partially.

Camp 4 EXT (95%) had the highest proportion of shelters that met the minimum standard and Camp 22 (27%) had the lowest proportion that met this standard.



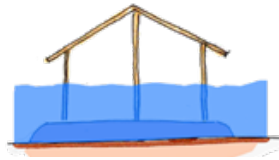
Floor with cement top layer without holes or excessive damage

Minimum performance standards that was met/unmet

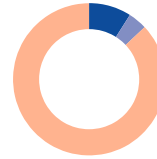


84% of shelters were not affected by flood water in the previous year. 16% of shelters were affected in 2020.

Camp 9 (34%) had the highest proportion of shelters affected by flood water in 2020. Camp 4EXT (4%) had the lowest proportion of shelters affected by flood water in 2020.

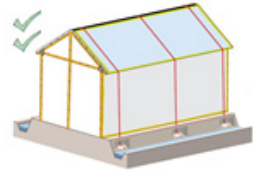


Shelter affected by flood water

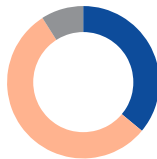


9% of shelters met the minimum standard for tying down the roofs according to the Sector guidance, with a minimum of six anchor points properly fixed to shelter and ground. 87% of shelters did not meet the standard with less than four anchor points fixed to the shelter and ground. 4% shelters met partially with at least four anchor points properly fixed to shelter and ground.

Camp 20Ext (33%) had the highest proportion of shelters that were tied down according to sector guidance and Camp 12 (1%) had the lowest proportion of shelters that were tied accordingly.

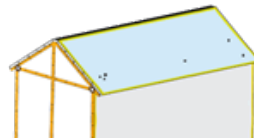


Shelter tied down in accordance with the Sector guidance



55% of shelters reported that rain water could enter through roof covering. 36% reported that water did not enter and 9% did not know.

Nayapara Refugee Camp (NRC) (80%) had the highest proportion of shelters where rain water seeped through the roof and Camp 18 (17%) had the lowest proportion of shelters which had water seeping through the roof.



Rain water enters into the shelter through roof covering

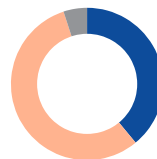


22% of shelters met the minimum standard of presence of non-flammable materials protecting walls in the cooking area, with 2' (60cm) of the wall area around the stove plastered with non-flammable material such as cement. 78% of shelters did not meet the standard.

Camp 5 (40%) had the highest proportion of shelters that had presence of non-flammable material and Camp 9 (7%) had the lowest proportion of shelters with the presence of non-flammable material.



Having non-flammable materials protecting the walls in the cooking area



56% of shelters reported that rainwater could enter the shelter through wall coverings. 39% reported that rain water did not enter and 5% reported they did not know.

Camp 16 (82%) had the highest proportion of shelters where rain water seeped through wall coverings and Camp 20 (31%) had the lowest proportion where water seeped through wall covering.



Rain water enters into the shelter through roof covering



9% of shelters met the minimum standard for gutters installed where adjacent shelters' roofs meet each other. 42% of shelters did not, and the question was not applicable for 49 per cent shelters where the roofs did not meet.

Camp 6 (21%) had the highest proportion of shelters that had gutters installed and Camp 20 (1%) had the lowest proportion of shelters with gutters installed where adjacent shelters' roofs meet.



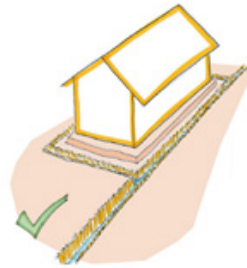
Having gutters where adjacent shelters' roofs meet each other

Minimum performance standards that was met/unmet

- Met the minimum standard
- Met the minimum standard partially
- Did not meet the minimum standard
- Did not know

8% of shelters met the minimum standard **for having adequate and functioning drainage.** 81% of shelters did not, and 9% of shelters met this standard partially, with three out of four adequate and functional drainages.

Camp 4 EXT (17%) had the highest proportion of shelters with adequate and functioning drainage and Kutupalong Registered Camp (KRC) (1%) had the lowest proportion of shelters with adequate and functional drainage.



Shelter having functioning drainage

19% of shelters had **standing water in the surrounding area of the shelter** that created water logging during the time of data collection. 81% did not have water logging in the surrounding area.

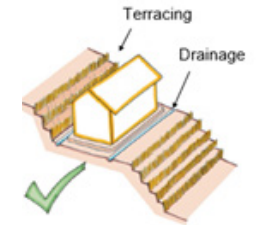
Camp 2W (31%) had the highest proportion of shelters that had standing water in the surrounding area and Camp 4 EXT (5%) had the lowest proportion of shelters with standing water in the surrounding area.



Having standing water in the surrounding area of the shelter that creates water logging

59% of shelters met the minimum standard **for site safety (had adequate slope protection where needed or were located in plain land).** 41% shelter sites were not on safe sites.

Camp 25 (94%) had the highest proportion of shelters located on safe sites and Camp 8W (29%) had the lowest proportion of shelters located on safe sites.



YES

Having adequate slope protection

15% of shelters met the minimum standard **for cross ventilation with Garenja/Two windows.** 71% of shelters did not meet the standard - with no windows and garenjas. 14% shelters partially met the standard i.e. they had garenja/window but no cross ventilation.

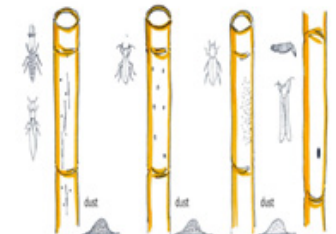
Camp 16 (39%) had the highest proportion of shelters with cross ventilation and Camp 2E (1%) had the lowest proportion of shelters that met this standard.



Having means of ventilation to maintain air quality

14% of shelters **did not have signs of insect infestation.** 86% of shelters had signs of insect infestation.

Camp 1W, 11, 17 and 26 (94% each) had the highest proportion of shelters that were not infested. Camp 20 (67%) had the lowest proportion of shelters that were infested.



Structural bamboo with insect infestation

From the table below it can be seen that most camps have met the minimum standards of internal partition, lockable shelter, protection from flood water, water logging and a safe shelter site. On the other hand, almost all the camps have less than 25% shelters meeting standards of rain protection through the roof, tying down of roofs, drainage, gutters, and cross ventilation

Questions	>50%	26% - 50%	0 -25%	Camp 1E	Camp 1W	Camp 2E	Camp 2W	Camp 3	Camp 4	Camp 4EXT	Camp 5	Camp 6	Camp 7	Camp 8E	Camp 8W	Camp 9	Camp 10	Camp 11	Camp 12	Camp 13
Is the height of the plinth minimum 6" (15cm)?	46%	55%	56%	58%	46%	64%	59%	47%	67%	51%	65%	52%	57%	53%	55%	54%	54%			
Are the footings/RCC posts 2ft above in the ground so that they are securely anchored?	34%	13%	23%	10%	18%	58%	71%	51%	45%	28%	49%	64%	43%	43%	56%	58%	64%			
Are the footings concrete or metal to keep the bamboo structure out of the ground?	11%	4%	7%	3%	2%	32%	72%	38%	33%	7%	37%	63%	32%	32%	28%	45%	47%			
Is the distance between bamboo columns maximum 5ft (152 cm)?	49%	55%	38%	42%	44%	67%	91%	29%	62%	43%	70%	64%	45%	50%	60%	61%	42%			
Is the distance between bamboo rafters maximum 5ft for big bamboo or 1ft for small bamboo?	60%	65%	59%	66%	55%	66%	81%	55%	63%	55%	74%	64%	47%	67%	72%	55%	57%			
Is the distance between purlins less than 1ft?	38%	70%	33%	64%	32%	71%	53%	48%	56%	58%	82%	56%	50%	47%	63%	47%	49%			
Is there adequate bracing in all corner bays of the shelter?	5%	3%	4%	6%	0%	4%	77%	19%	2%	4%	18%	13%	1%	4%	3%	2%	8%			
Has the shelter at least one partition wall to provide privacy?	48%	53%	47%	54%	46%	57%	43%	60%	74%	60%	68%	66%	57%	52%	60%	63%	56%			
Has the shelter means to be locked from inside and out?	73%	74%	83%	72%	71%	76%	86%	88%	82%	67%	85%	83%	87%	74%	68%	79%	76%			
Does the structural bamboo have signs of insect infestation?	88%	94%	89%	91%	93%	88%	92%	92%	85%	83%	76%	79%	74%	81%	94%	71%	87%			
Has the floor a cement finishing top layer that is complete and without holes or excessive damage?	46%	43%	47%	36%	68%	41%	95%	46%	37%	35%	36%	42%	60%	56%	63%	54%	55%			
Has the shelter been affected by the flood water within the past year?	21%	21%	26%	20%	18%	12%	4%	10%	6%	8%	15%	8%	34%	13%	26%	20%	18%			
Does the rain water enter into the shelter through roof covering?	59%	52%	64%	57%	61%	50%	42%	62%	58%	53%	26%	53%	46%	48%	39%	45%	44%			
Does the rain water enter into the shelter through wall covering?	53%	58%	50%	56%	64%	42%	70%	68%	64%	55%	42%	67%	51%	49%	48%	48%	51%			
Has the shelter being tied down in accordance with the sector guidance?	2%	5%	3%	12%	4%	5%	6%	25%	7%	8%	16%	10%	2%	5%	3%	1%	3%			
Is there non-inflammable materials protecting the walls in the cooking area?	23%	17%	26%	23%	23%	21%	17%	40%	35%	19%	39%	36%	7%	10%	27%	15%	11%			
Are there any gutters installed that join the roofs of the shelter?	14%	8%	17%	16%	9%	9%	3%	12%	21%	7%	8%	12%	12%	8%	8%	13%	9%			
Is there adequate and functioning drainage around the shelter?	12%	5%	13%	8%	10%	4%	17%	6%	8%	9%	8%	10%	9%	7%	10%	8%	8%			
Is there any standing water in the surrounding area of the shelter that creates water logging?	16%	30%	24%	31%	20%	24%	5%	21%	15%	23%	18%	14%	27%	16%	24%	18%	16%			
Is the shelter site safe (have adequate slope protection where needed or in the plain land so the site is safe)?	66%	61%	73%	54%	70%	51%	87%	32%	52%	54%	50%	29%	60%	31%	39%	56%	58%			
Does the shelter have cross ventilation with Garenja/two windows?	15%	11%	1%	3%	7%	14%	37%	30%	4%	11%	8%	24%	21%	8%	9%	25%	28%			

† Findings from camps: 8E, 8W, 9 do not reflect shelters conditions as data collection was done before the fire on March 22nd 2021.

Questions	>50%	26% - 50%	0 -25%	Camp 14	Camp 15	Camp 16	Camp 17	Camp 18	Camp 19	Camp 20	Camp 20EXT	Camp 21	Camp 22	Camp 24	Camp 25	Camp 26	Camp 27	KRC	NRC
Is the height of the plinth minimum 6" (15cm)?	50%	56%	69%	57%	69%	66%	55%	46%	66%	55%	45%	43%	41%	50%	75%	61%			
Are the footings/RCC posts 2ft above in the ground so that they are securely anchored?	59%	58%	66%	33%	65%	56%	58%	36%	27%	64%	41%	45%	10%	33%	41%	41%			
Are the footings concrete or metal to keep the bamboo structure out of the ground?	42%	40%	53%	18%	46%	44%	35%	21%	26%	39%	44%	32%	9%	22%	47%	44%			
Is the distance between bamboo columns maximum 5ft (152 cm)?	60%	45%	71%	50%	54%	57%	67%	71%	82%	66%	46%	50%	53%	52%	26%	19%			
Is the distance between bamboo rafters maximum 5ft for big bamboo or 1ft for small bamboo?	66%	62%	71%	47%	58%	69%	59%	65%	83%	60%	52%	64%	51%	57%	64%	68%			
Is the distance between purlins less than 1ft?	62%	53%	71%	43%	38%	72%	32%	61%	39%	58%	28%	62%	27%	54%	32%	26%			
Is there adequate bracing in all corner bays of the shelter?	6%	0%	17%	5%	5%	19%	1%	19%	6%	2%	0%	4%	2%	2%	4%	2%			
Has the shelter at least one partition wall to provide privacy?	67%	44%	71%	57%	51%	75%	45%	63%	45%	66%	46%	49%	40%	67%	77%	59%			
Has the shelter means to be locked from inside and out?	84%	86%	80%	63%	87%	84%	86%	76%	72%	75%	89%	80%	66%	70%	92%	78%			
Does the structural bamboo have signs of insect infestation?	83%	91%	92%	94%	70%	88%	67%	85%	83%	93%	90%	87%	94%	86%	92%	86%			
Has the floor a cement finishing top layer that is complete and without holes or excessive damage?	41%	61%	59%	37%	54%	51%	47%	34%	29%	27%	59%	33%	31%	38%	71%	50%			
Has the shelter been affected by the flood water within the past year?	7%	25%	10%	10%	14%	16%	15%	15%	13%	8%	25%	20%	21%	12%	13%	22%			
Does the rain water enter into the shelter through roof covering?	60%	51%	75%	77%	17%	60%	21%	65%	62%	68%	55%	78%	61%	59%	62%	80%			
Does the rain water enter into the shelter through wall covering?	57%	62%	82%	75%	39%	51%	31%	70%	61%	69%	48%	71%	55%	55%	48%	50%			
Has the shelter being tied down in accordance with the sector guidance?	7%	3%	2%	18%	5%	18%	16%	33%	5%	15%	11%	11%	9%	7%	2%	7%			
Is there non-inflammable materials protecting the walls in the cooking area?	26%	8%	18%	24%	17%	19%	18%	24%	13%	22%	18%	16%	16%	21%	27%	36%			
Are there any gutters installed that join the roofs of the shelter?	6%	9%	18%	6%	3%	6%	1%	8%	3%	8%	3%	4%	4%	8%	8%	7%			
Is there adequate and functioning drainage around the shelter?	4%	4%	4%	7%	8%	8%	7%	12%	8%	10%	3%	5%	5%	2%	1%	7%			
Is there any standing water in the surrounding area of the shelter that creates water logging?	22%	22%	25%	19%	10%	17%	12%	13%	7%	17%	23%	28%	15%	21%	14%	20%			
Is the shelter site safe (have adequate slope protection where needed or in the plain land so the site is safe)?	38%	52%	58%	37%	46%	56%	43%	77%	42%	72%	91%	94%	72%	84%	78%	91%			
Does the shelter have cross ventilation with Garenja/two windows?	6%	18%	39%	5%	15%	14%	9%	24%	9%	13%	12%	15%	10%	13%	20%	17%			

Overview

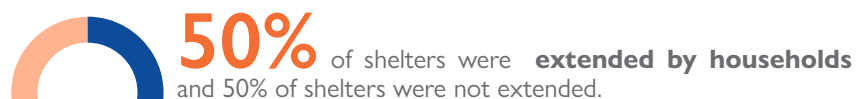
This section assessed shelters to highlight the desired performance standards which should be met and the extent to which they are fully met, partially met, or not met at all.

Desired performance standards that was met/unmet

- Met the minimum standard
- Met the minimum standard partially
- Did not meet the minimum standard

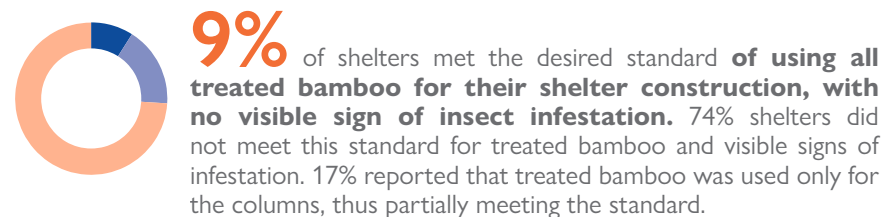
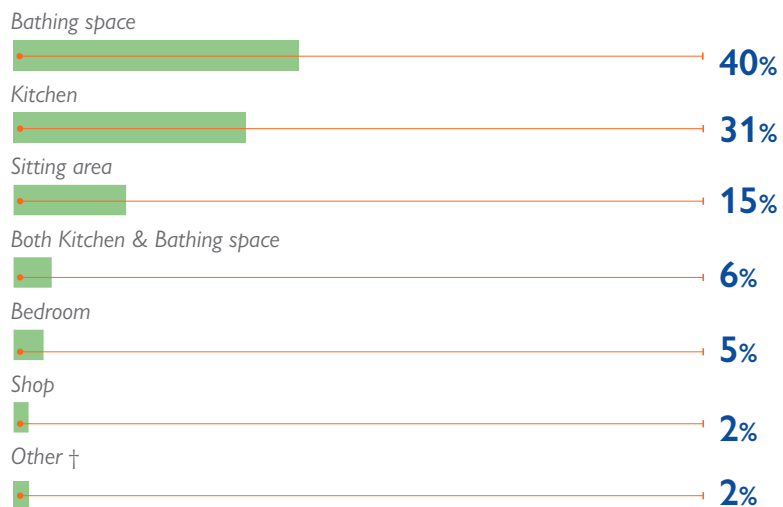


Camp 4 EXT and Camp 12 (90% each) had the highest proportion of shelters that met the desired performance standard, and Camp 3 (69%) had the lowest proportion that met this standard.

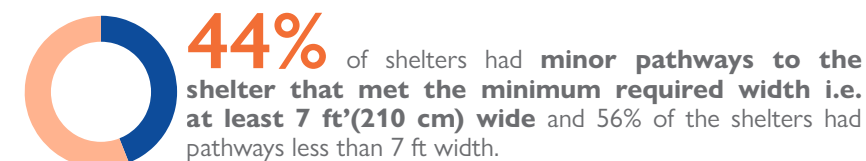


Nayapara Registered Camp (NRC) (77%) had the highest proportion of shelters that were extended and Camp 1W (28%) had the lowest proportion of shelters with extension.

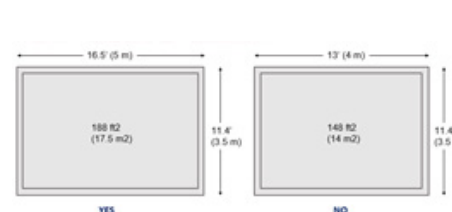
Purpose of extension



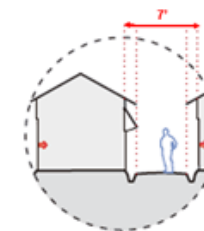
Camp 22 (21%) had the highest proportion of shelters with all bamboo being treated and Camp 26 (0%) had the lowest proportion of shelters with treated bamboo.



Camp 4 EXT (76%) had the highest proportion of shelters that had minor pathways with the required width and Camp 1W (25%) had the lowest proportion of shelters with the required width.



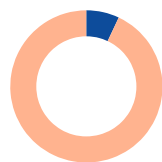
Minimum 188ft² (17.5 m²) covered living space



Minor pathways wide at least 7' (210cm)

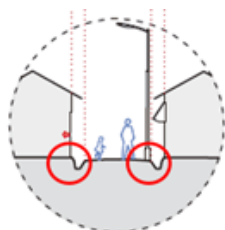
†Responses for 'other' was combined response of shop, latrine, sitting space, bedroom.

Desired performance standards that was met/unmet

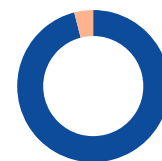


7% of shelters had **drainage on both sides of the minor pathways** and 93% did not.

Camp 20EXT (19%) had the highest proportion of shelters that had drainage on both sides of the minor pathways and Camp 24, KRC, NRC (0%) had the lowest proportion that met the standard.



Minor pathways with drainage at both sides



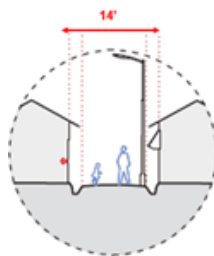
96% of occupants reportedly had **access to latrine** and 4% did not have access. Camp 4EXT, 15 and Nayapara Registered Camp (NRC) reported 100% access to latrines and Camp 2W (89%) had the lowest proportion of occupants that reported having access to latrine.

Households that reported having access to latrine were further asked to report if the latrine is shared by maximum 20 persons. Overall, 37% reported yes - was shared with a maximum of 20 persons and 61% reported no - was shared with more than 20 persons. 2% reported they did not know.



46% of shelters had **major pathways to the shelter and facilities that met the minimum required width of 14'(430 cm)** and 54% did not meet the minimum required width.

Camp 4 EXT (100%) had the highest proportion of shelters that had major pathways with the required width and Camp 21 (19%) had the lowest proportion of shelters that met the standard.

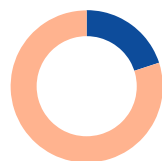


Major pathways wide at least 14' (430cm)



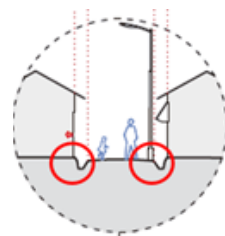
64% of occupants reportedly had **access to communal bathing space** and 36% did not have access. Camp 4 EXT reported 100% access to communal bathing space and Camp 10 (42%) had the lowest proportion of occupants who had access.

Households that reported having access to communal bathing space were further asked to report if the bathing space is shared with a maximum of 20 persons., Overall, 48% reported yes - it was shared with a maximum of 20 persons and 48% reported no - was shared with more than 20 persons. 4% reported they did not know.



20% of shelters had **drainage on both sides of the major pathways** and 80% did not.

Camp 4 EXT (81%) had the highest proportion of shelters that had drainage on both sides of the major pathways and Camp 27 (1%) had the lowest proportion that met the standard.



Major pathways with drainage at both sides

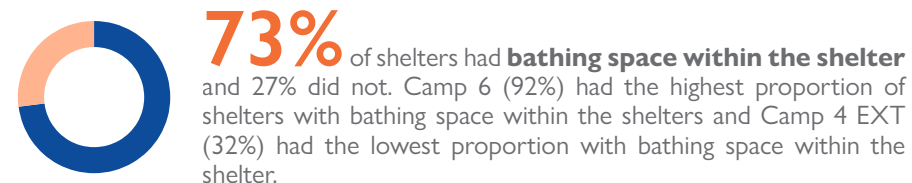
Desired performance standards that was met/unmet



Households that reported having access to communal bins for solid waste were further asked to report if the bin was shared with a maximum 10 families. Overall, 78% reported yes - the bin was shared with a maximum of 10 families, and 20% reported no - the bin was shared with more than 10 families. 2% reported they did not know.



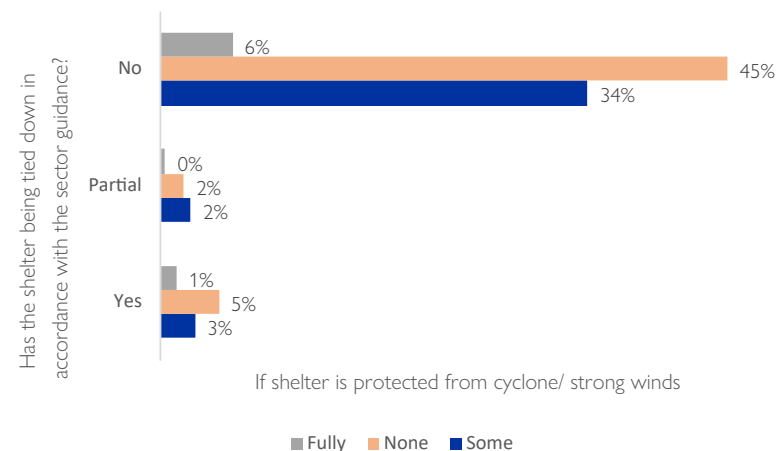
Households that reported having access to solid waste pit were further asked to report if the bin was shared by maximum 200 families. Overall, 86% reported yes - the solid waste pit was shared by 200 families and 6% reported no - the solid waste pit was shared by more than 200 families. 8% reported they did not know.



Correlations between performance standards (minimum/desired)

Shelter tie down and protection from cyclone/strong winds:

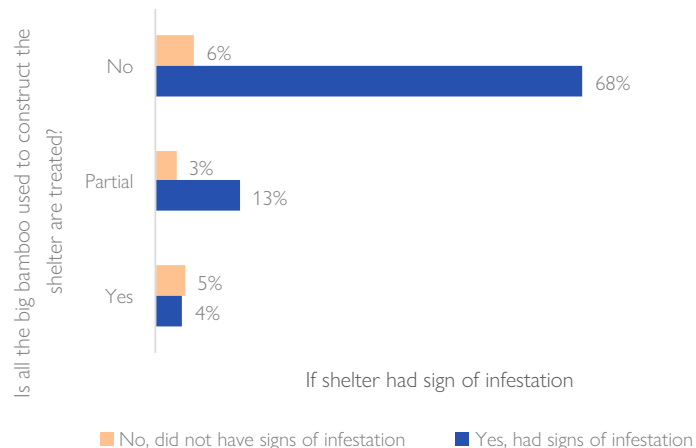
Overall, out of 3,039 (87%) households that reportedly **did not have their shelter properly tied down**, 6% reported the shelter was fully protected against cyclone/strong winds, 45% reported shelter was not protected and 34% reported that it was somewhat protected.



Correlations between performance standards (minimum/desired)

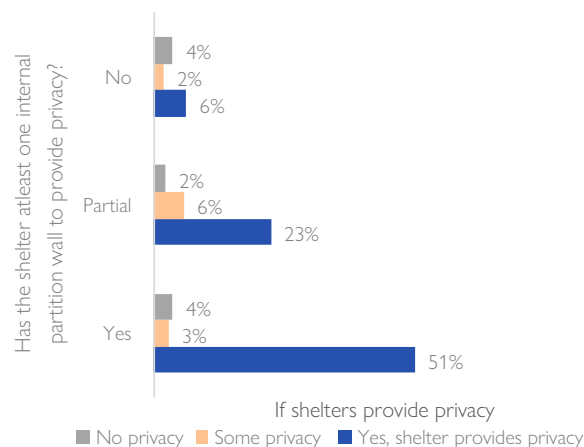
Bamboo treatment and signs of insect infestation:

Overall, out of 2,607 (74%) households that reported that the bamboo **used in construction was not treated**, 68% of these shelters reported having signs of insect infestation and 6% did not have signs of insect infestation.



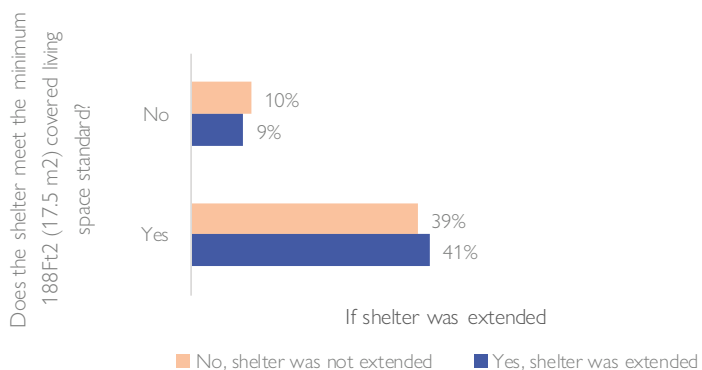
Having at least one internal partition and shelter privacy:

Overall, out of 2,006 (57%) households that reportedly **had at least one internal partition wall**, 51% of these shelters reported that shelters provided privacy and 4% reported no privacy.



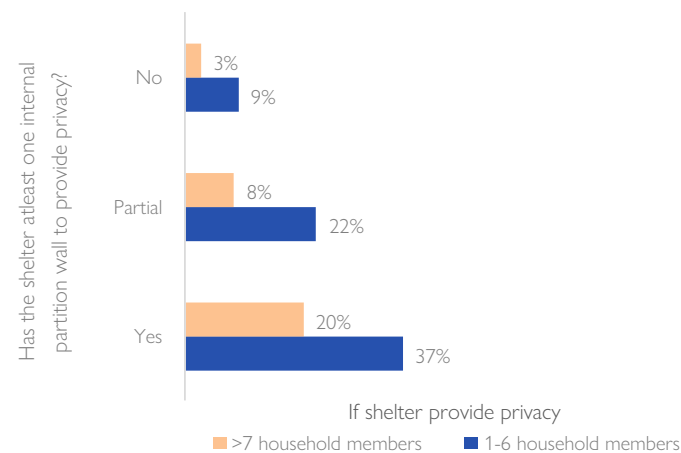
Having covered living space and shelter extension:

Overall, out of 2,827 (81%) shelters that **met the minimum covered living space**, 41% of these shelters were reportedly extended and 39% of these shelters were not extended.



Having at least one internal partition and shelter privacy, by HH size:

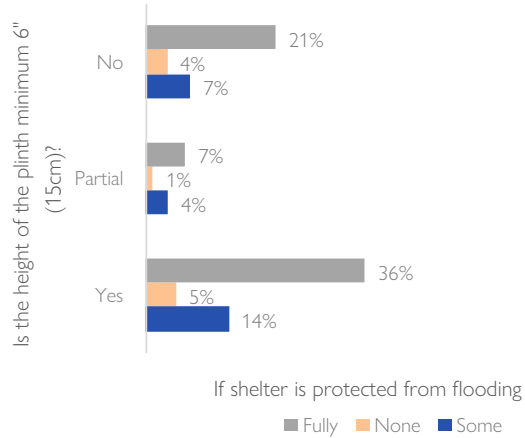
Overall, out of 2,006 (57%) households that reportedly **had at least one internal partition wall**, 37% of surveyed HH consisting of 1-6 HH members reported that their shelters provided privacy, compared to only 20% of HH with 7 or more members.



Correlations between performance standards (minimum/desired)

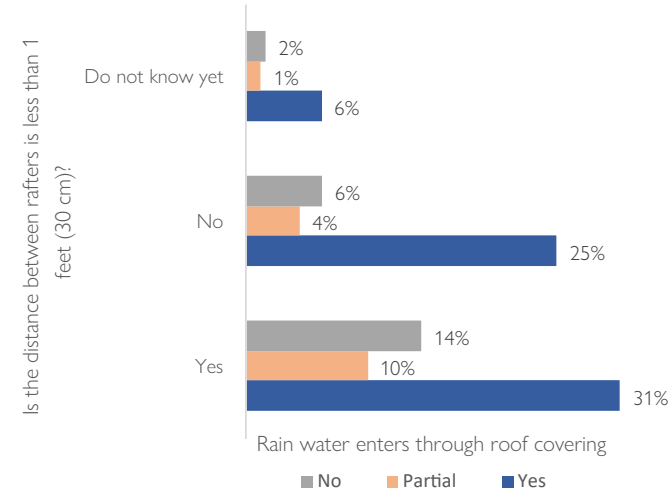
Height of plinth and protection from flood:

Overall, out of 1,955 (56%) households that **met minimum standards for height of plinth**, 36% of these households reported their shelter is fully protected from flooding and only 5% households who met minimum standard for plinth reported not being protected from flood.



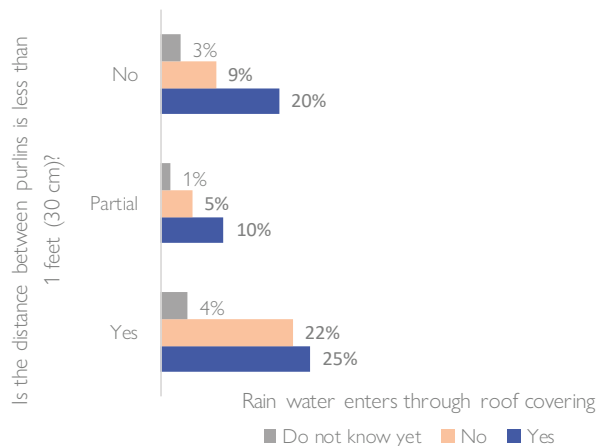
Distance between rafters and rain water entering through roof covering:

Similarly, out of 778 shelters that **did not meet minimum standards for distance between rafters**, higher proportion of these shelters reported water entered through its roof covering (yes: 14%) compared to only 6% that reported water did not enter.



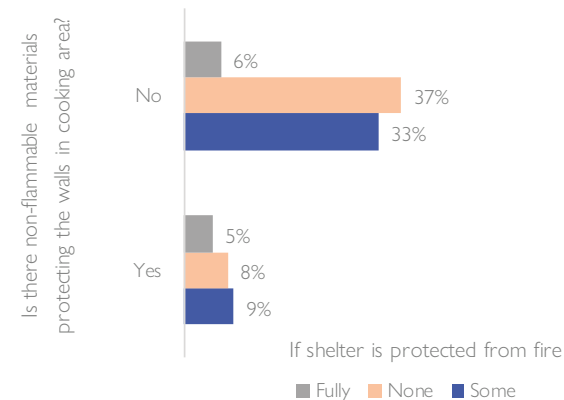
Distance between purlins and rain water entering through roof covering:

Overall, out of 1,115 (32%) shelters that **did not meet the minimum standards for distance between purlins**, a higher proportion of shelters (yes: 20%) reported that rain water entered through roof covering compared to proportions that reported water did not enter (no: 9%).






Having non-inflammable materials in the cooking area and protection from fire:

Overall, out of 2,744 (78%) households that **did not have non-inflammable material protecting the walls in the cooking area had a direct correlation to feeling protected from fire**. Higher proportion of households that did not have protective material reported feeling somehow protected (some: 33%) or not protected (none: 37%) from fire.



Questions	>50%	26% - 50%	0 -25%	Camp 1E	Camp 1W	Camp 2E	Camp 2W	Camp 3	Camp 4	Camp 4EXT	Camp 5	Camp 6	Camp 7	Camp 8E	Camp 8W	Camp 9	Camp 10	Camp 11	Camp 12	Camp 13
Does the shelter meet the minimum 188Ft2 (17.5m2) covered living space standard?	70%	83%	73%	84%	69%	77%	90%	73%	81%	87%	89%	89%	79%	74%	77%	90%	77%	90%	77%	
Is all the bamboo used to construct the shelter treated?	3%	5%	1%	7%	3%	6%	12%	5%	14%	5%	15%	16%	10%	13%	8%	13%	10%	13%	10%	
Has the shelter been extended by the household?	37%	28%	34%	44%	43%	43%	50%	68%	51%	49%	44%	45%	39%	62%	40%	57%	56%	56%	56%	
Are the minor pathways to the shelter at least 7'(210 cm) wide?	33%	25%	34%	42%	37%	50%	76%	55%	44%	30%	47%	42%	37%	38%	28%	39%	34%	39%	34%	
Does the minor pathways have drainage at both sides?	3%	11%	3%	11%	10%	5%	9%	12%	10%	9%	17%	11%	2%	4%	3%	2%	3%	2%	3%	
Are the major pathways to the shelter and facilities at least 14'(430 cm) wide?	57%	50%	35%	44%	68%	59%	100%	49%	26%	24%	34%	36%	47%	44%	29%	44%	40%	44%	40%	
Does the major pathways to the shelter and facilities have drainage at both sides?	13%	22%	7%	13%	39%	32%	81%	39%	27%	3%	14%	21%	9%	28%	18%	30%	6%	30%	6%	
Do occupant have access to latrine?	97%	90%	98%	89%	99%	99%	100%	95%	97%	97%	94%	95%	92%	92%	93%	97%	98%	97%	98%	
Is the occupants' latrine shared by maximum 20 persons?	25%	15%	10%	31%	21%	36%	78%	36%	22%	32%	38%	26%	35%	28%	28%	54%	32%	54%	32%	
Do the occupants have access to communal bathing space?	78%	69%	61%	47%	69%	71%	100%	60%	45%	54%	50%	51%	53%	42%	50%	62%	51%	62%	51%	
Do the occupants' communal bathing space is shared by maximum 20 persons?	36%	37%	33%	54%	54%	48%	79%	48%	37%	46%	58%	60%	38%	48%	46%	65%	37%	65%	37%	
Do the occupants have bathing space within shelter?	64%	73%	83%	84%	68%	68%	32%	75%	92%	83%	81%	74%	84%	87%	86%	74%	84%	86%	74%	
Do the occupants have access to a bin for solid waste?	91%	82%	89%	89%	86%	87%	100%	79%	85%	85%	95%	89%	67%	72%	92%	85%	64%	92%	85%	
Do the occupants bin for solid waste is shared by maximum 10 families?	84%	80%	75%	80%	63%	69%	98%	79%	81%	80%	91%	88%	61%	72%	63%	63%	69%	63%	69%	
Do the occupants have access to a solid waste pit?	12%	28%	13%	27%	15%	37%	2%	38%	25%	20%	17%	18%	21%	24%	17%	9%	14%	17%	14%	
Do the occupants solid waste pit is shared by maximum 200 families?	69%	90%	79%	69%	75%	90%	50%	100%	82%	76%	89%	100%	64%	76%	83%	80%	87%	83%	80%	

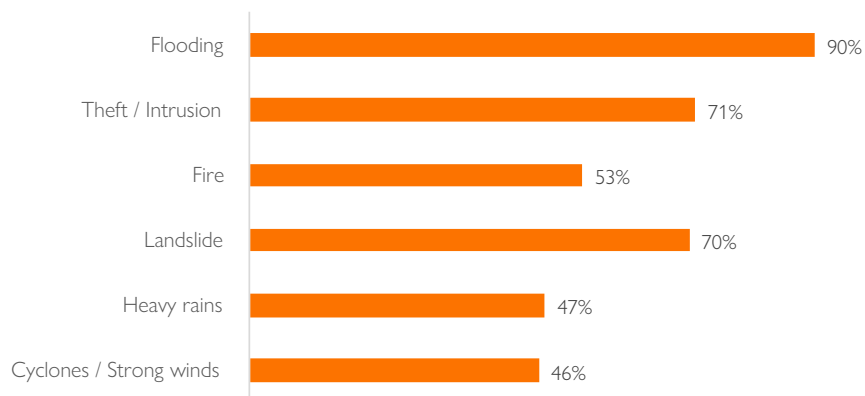
† Findings from camps: 8E, 8W, 9 do not reflect shelters conditions as data collection was done before the fire on March 22nd 2021.

Questions	 >50%	 26% - 50%	 0 -25%	Camp 14	Camp 15	Camp 16	Camp 17	Camp 18	Camp 19	Camp 20	Camp 20EXT	Camp 21	Camp 22	Camp 24	Camp 25	Camp 26	Camp 27	KRC	NRC
Does the shelter meet the minimum 188Ft2 (17.5m2) covered living space standard?				85%	82%	77%	80%	74%	82%	85%	86%	70%	88%	74%	85%	85%	86%	85%	79%
Is all the bamboo used to construct the shelter treated?				9%	13%	13%	3%	14%	6%	10%	13%	12%	21%	10%	14%	0%	7%	4%	1%
Has the shelter been extended by the household?				54%	69%	48%	59%	61%	43%	65%	55%	66%	34%	49%	32%	49%	45%	74%	77%
Are the minor pathways to the shelter at least 7'(210 cm) wide?				39%	28%	51%	47%	49%	56%	52%	71%	47%	45%	63%	55%	44%	50%	40%	42%
Does the minor pathways have drainage at both sides?				6%	2%	5%	7%	14%	6%	4%	19%	4%	14%	0%	12%	3%	1%	0%	0%
Are the major pathways to the shelter and facilities at least 14'(430 cm) wide?				34%	43%	54%	60%	30%	51%	40%	70%	19%	37%	34%	63%	31%	69%	40%	49%
Does the major pathways to the shelter and facilities have drainage at both sides?				21%	18%	15%	30%	30%	19%	11%	31%	6%	19%	2%	11%	13%	1%	13%	5%
Do occupants have access to latrine?				94%	100%	94%	95%	97%	95%	98%	98%	98%	98%	99%	96%	98%	94%	99%	100%
Is the occupants' latrine shared by maximum 20 persons?				38%	48%	30%	39%	31%	46%	61%	49%	40%	51%	42%	42%	29%	50%	33%	51%
Do the occupants have access to communal bathing space?				58%	61%	80%	66%	74%	72%	77%	72%	59%	65%	64%	74%	78%	68%	73%	58%
Do the occupants' communal bathing space is shared by maximum 20 persons?				51%	48%	58%	50%	46%	45%	67%	55%	43%	59%	33%	42%	31%	53%	31%	41%
Do the occupants have bathing space within shelter?				83%	74%	48%	80%	65%	64%	70%	72%	72%	68%	72%	58%	71%	60%	75%	78%
Do the occupants have access to a bin for solid waste?				77%	82%	81%	80%	63%	88%	59%	95%	87%	92%	76%	74%	77%	86%	95%	94%
Do the occupants bin for solid waste is shared by maximum 10 families?				70%	86%	82%	84%	65%	78%	88%	91%	72%	93%	81%	70%	73%	92%	84%	64%
Do the occupants have access to a solid waste pit?				27%	3%	26%	22%	3%	17%	12%	25%	3%	15%	9%	27%	5%	15%	15%	8%
Do the occupants solid waste pit is shared by maximum 200 families?				97%	67%	93%	87%	33%	89%	75%	100%	100%	100%	78%	90%	100%	94%	60%	100%

Overview

Households were asked to report on their perceptions of safety in shelter from weather-related events. These sections are proxies for certain standards that were subjective and seasonal.

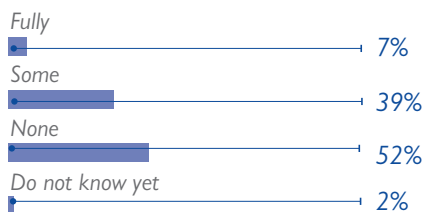
Highest and Lowest threats perceived by respondents†



Flood was perceived as highest threat and cyclones or strong winds were perceived as lowest threat by respondents.

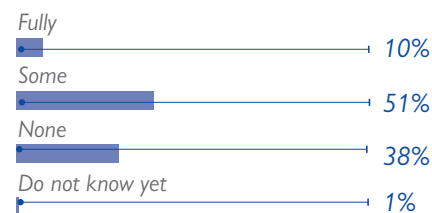
How well do you feel the shelter and site protects the household from the following threats:

Cyclones/Strong winds



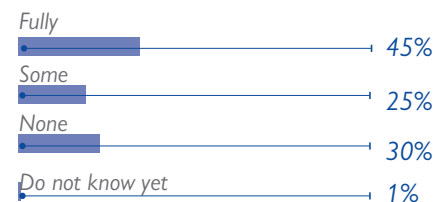
Camp 9, 11, 12, 15 and 25 (12% each) had the highest proportion of HHs that reported the shelter and site protects them fully from cyclones and strong winds. Camp 7 (53%) had the highest proportion of households reported that the shelter protects from cyclones/strong winds to some level. And Camp 24 (68%) reported the shelter/site does not protect from cyclones or strong winds at all.

Heavy rains



Camp 18 (20%) had the highest proportion of HHs that reported feeling fully protected from heavy rains. Camp 12 and 18 (62% each) had the highest proportion of households that reported feeling some degree of protection from heavy rains in their shelters. Camp 27 (55%) reported feeling no protection from heavy rains in their shelters and site.

Landslides

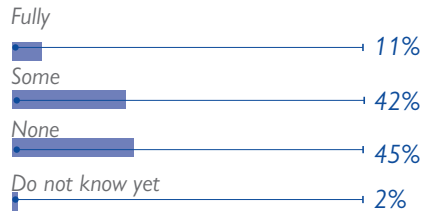


Camp 18 (20%) had the highest proportion of HHs that reported feeling fully protected from landslides in their shelters and site. Camp 12 and 18 (62% each) had the highest proportion of households that reported feeling some degree of protection from landslides and Camp 27 (55%) reported feeling no protection from landslides.

† These percentages are sum of 'fully and some' reported by respondents

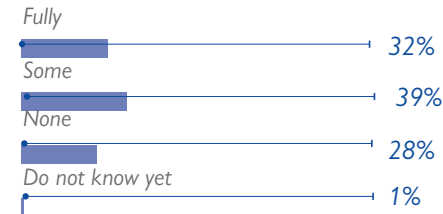
How well do you feel the shelter and site protects the household from the following threats:

Fire



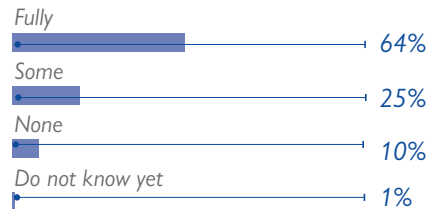
Camp 18 (25%) had the highest proportion of HHs that reported feeling **fully** protected from fire. Camp 21 (55%) had the highest proportion of households that reported feeling **some** degree of protection from fire and Camp 22 (58%) reported they do **not** feel protected from fire in their shelters.

Theft/Intrusion



Camp 13 and 15 (50% each) had the highest proportion of HHs that reported feeling **fully** protected from theft/intrusion in their shelters. Camp 2E (54%) had the highest proportion of households that reported feeling **some** degree of protection and Kutupalong Registered Camp (47%) reported the highest proportion of HHs not feeling protected from theft and intrusion in their shelters.

Flooding



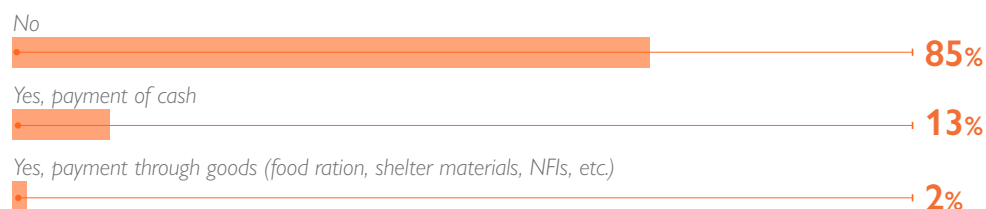
Camp 4 EXT (92%) had the highest proportion of HHs that reported feeling **fully** protected from floods in their shelters and site. Camp 9 (38%) had the highest proportion of households that reported feeling **some** degree of protection from floods in their shelters and site and Camp 9 and 25 (18% each) reported feeling no protection against flooding.

Households were asked to report if their **shelters were affected by above mentioned threats in the past year**. “Overall, 52% of the households reported that they faced the above threats and 47% reported they did not face threats”. Camp 2E and 11 (69% each) had the highest proportion of households that reported facing threats and Camp 4 EXT (69%) had the highest proportion that did not face threats. “Households also reported on issues of **privacy** and a large majority (80%) reported that the shelter provided the privacy they needed. Camp 8E (92%) had the highest proportion that reported having privacy they needed from the shelter.

Overview

Majority of the refugee population now reside in designated camps, however, a proportion of refugees continue to live with host communities. Over the years, host communities renting land, shelter/house and shops to refugees has come out as a prominent engagement the two communities have with each other. In the Joint Multi Sector Needs Assessment (J-MSNA) of 2020, 10% of refugee respondents reported having had to make rent payments to live in their shelter in the 6 months prior to data collection. In this section of the assessment, households were asked to report on rent paid, issues of eviction, lease agreements and disputes.

Proportion of respondents that reported paying cash or provide other in exchange for rent to live in current shelter in past 12 months



Teknaf upazila (356 HH) had a higher number of households that paid rent in cash compared to Ukhiya upazila (89 HH). However, Ukhiya upazila (66 HH) had a higher number of households that paid through goods compared to Teknaf upazila (2 HH).

Camp 25 (87%) had the highest proportion of households that reported paying rent in cash followed by Camp 24 (84%), Camp 27 (78%) and Camp 26 (67%). Camp 1E (18%) had the highest proportion of households that reported paying rent through goods followed by Camp 1W (14%) and Camp 12 (12%).

Cash paid in rent (per month):

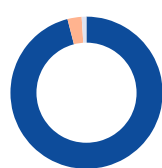
Rent in BDT (Bangladeshi Taka)	Proportion of HH
Less than 200 BDT	12%
200 - 400 BDT	53%
400 - 600 BDT	26%
600 - 800 BDT	4%
800 - 1,000 BDT	2%
> 1,000 BDT	2%

Teknaf upazila (310 HH) had higher number of households that paid 200-600 BDT compared to Ukhiya upazila (39 HH).

Teknaf	<200 BDT	200-400 BDT	400-600 BDT	600-800 BDT	800-1000 BDT	>1000 BDT
Camp 22	5 HH	2 HH	0 HH	0 HH	0 HH	0 HH
Camp 24	1 HH	38 HH	35 HH	10 HH	2 HH	1 HH
Camp 25	0 HH	55 HH	33 HH	3 HH	4 HH	1 HH
Camp 26	11 HH	51 HH	12 HH	2 HH	0 HH	0 HH
Camp 27	1 HH	54 HH	23 HH	3 HH	2 HH	0 HH
NRC	0 HH	6 HH	1 HH	0 HH	0 HH	0 HH
Ukhiya						
Camp 1E	24 HH	12 HH	0 HH	0 HH	1 HH	0 HH
Camp1W	0 HH	0 HH	1 HH	1 HH	0 HH	0 HH
Camp 2E	3 HH	1 HH	0 HH	0 HH	0 HH	0 HH
Camp 8E	0 HH	7 HH	2 HH	0 HH	0 HH	0 HH
Camp 9	4 HH	1 HH	0 HH	0 HH	0 HH	4 HH
Camp 10	0 HH	0 HH	0 HH	0 HH	0 HH	1 HH
Camp 11	0 HH	0 HH	0 HH	0 HH	0 HH	1 HH
Camp 12	0 HH	3 HH	0 HH	0 HH	0 HH	1 HH
Camp 15	0 HH	0 HH	1 HH	0 HH	0 HH	1 HH
Camp 16	4 HH	0 HH	3 HH	0 HH	1 HH	1 HH
Camp 19	0 HH	0 HH	1 HH	0 HH	0 HH	0 HH
KRC	1 HH	4 HH	3 HH	0 HH	0 HH	0 HH



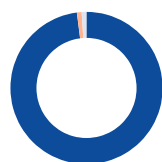
Eviction



96% of households that paid cash as rent reported not facing any threat of eviction and 3% reported facing threat because they could not pay rent, followed by 1% that reported eviction threat because host community needed their land back for their own plans and purpose. Teknaf upazila (70 HH) had a slightly higher number of households that reported facing eviction threat compared to Ukhiya upazila (62 HH). In Ukhiya: Camp 1E (22%) had the highest proportion of households that reported facing a threat because they were unable to pay rent and Camp 24 (6%) had the highest proportion of households that faced threats because host community wanted their land back.†1

Households that reported facing eviction threat were further asked to report if they were evicted. Only Teknaf upazila (4 HH) reported being evicted. Overall, 97% households reported not being evicted and 3% reported being evicted. Nayapara RC (33%) had the highest proportion of households that reported being evicted.

Dispute (disagreements)



98% of households reported that they were not involved in any shelter, land or water disputes (disagreements) with the host community and 1% each reported issues over water and issues over use of land for shelter. Ukhiya upazila (40 HHs) had a higher number of HH that reported being involved in disputes compared to Teknaf upazila (17 HHs). Nayapara RC (4%) had the highest proportion of households that got into disagreements due to water issues, and Camp 1W (6%) had the highest proportion that got into disagreements due to use of land for shelter. Households that reported being involved in disputes (disagreements) were further asked to report on how it was resolved.

Rent agreements:



73% of households that paid cash as rent reported having verbal agreement and 2% reported having written agreement. Overall, 25% households reported not having any agreement. †2

Some nuanced differences can be observed in payment of rent based on the gender of head of household (HoHH) and their marital status. 16% of female divorces paid rent in cash while there were no male divorces paying rent in cash. Similarly, 11% of females who are separated paid rent in cash. No significant differences were observed between females and males who are married.

It can be observed that more female widowed HoHHs (25%) are paying higher rent compared to male widowers HoHHs (0%). No other major significance was observed between the gender of HoHH and their marital status and the amount of rent paid.

HoHH	No agreement	Yes, verbal agreement	Yes, written agreement	Don't know
Female				
Divorced	0%	100%	0%	0%
Married	29%	70%	2%	0%
Separated	0%	100%	0%	0%
Widow	11%	86%	3%	0%
Male				
Married	26%	71%	2%	1%
Single	0%	100%	0%	0%
Widower	0%	100%	0%	0%
Other				
Single	0%	100%	0%	0%

No significant correlation was observed between gender of HoHH and marital status with the type of rent agreement they had with landlords. A further more detailed study is required to understand the nuanced differences between the aforementioned factors.

Similarly, no significant correlation was observed between gender of HoHH and marital status with threat of eviction in the last 12 months. The only slight difference that was observed was between female (4%) and male (0%) divorcees who reported facing eviction threat as they could not pay rent. A slight difference was also observed when real eviction between female (6%) and male (3%) married HoHH. However, these differences are very minimal and require further in-depth study.

†1 These questions were only asked to households that reported facing eviction threat.

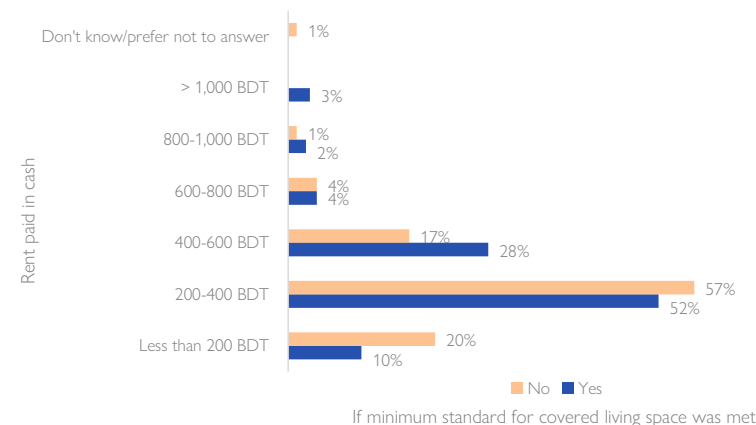
†2 These questions were only asked to households that reported paying rent in cash.

No strong correlation was observed between gender of HoHH and marital status and disagreements between refugees and host communities over shelter, land or water. However, it was observed that to resolve a disagreement, a higher proportion of married female HoHH (40%) reported mediation by community (majhi, elected leaders) compared to married male HoHH (29%). This could be because female Rohingya refugees feel more comfortable interacting within the community than outside of it.

Arrived to shelter	Yes, written agreement	Yes, verbal agreement	No agreement	Don't Know
1991	0%	100%	0%	0%
1992	0%	100%	0%	0%
2008	0%	100%	0%	0%
2009	0%	100%	0%	0%
2010	0%	50%	50%	0%
2011	0%	100%	0%	0%
2012	0%	100%	0%	0%
2014	0%	100%	0%	0%
2017	1%	67%	32%	0%
2018	2%	72%	25%	2%
2019	5%	90%	5%	0%
2020	3%	84%	12%	0%
2021†	7%	87%	7%	0%

From the table above, it can be observed that a higher proportion of refugees who arrived recently in 2021 have written agreements compared to those who arrived in previous years. Similarly, a higher proportion of refugees, who arrived before 2017, had some sort of agreement (verbal) with landlords for rent. Rent agreement was also tested against the highest level of education in the household, and no significant correlation was established between these two fields.

Correlation between minimum standards for covered living space was tested with payment of rent and no significant correlation was observed. However, when the amount of rent paid was tested against minimum standard for living space, it was observed that a slightly higher proportion of households that met minimum standard for covered living space paid higher rent (400BDT and above) compared to households that did not meet the standard. See below:



Period of arrival of assessed HHs:

It can be observed in the following table that 60% of HHs reported they arrived in the current shelter during 2017, 8% reported arrived before 2017 and 32% arrived after 2017

Arrival period	Proportion of HH
Before 2017	8%
During 2017	60%
After 2017	32%

† Data collection period covers for only January-March 2021 and the sample size for this option was n=57

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