

Part Three

Statistical analysis

Ewan Oglethorpe

Chief Data Officer, Cyclical Insights

Wilhelmina Welsch

Humanitarian Analysis Expert, Okular Analytics

Purpose

This third part of *The State of Humanitarian Shelter and Settlements* reviews the evidence base of the shelter and settlements sector, and the sector's data collection practices. It identifies data sources that can be used to analyze shelter needs and responses in the humanitarian system, and assesses the degree to which high-quality, comprehensive, complete, consistent, reliable, accessible and usable data is currently available at the global level, to provide information and analysis that can help guide decisions on strategy, programmes and operations for shelter and settlement responses to crises around the world.

Our findings are limited by the extent of information available and comparable across countries and crises – a significant finding in itself. In general, we found that data on shelter needs and response is inconsistently available and provides information on a crisis or country basis, leaving large information gaps in both time and geographic coverage. This hampers easy aggregation and comparison between crises and countries on the global level and with it the identification of trends and patterns. Furthermore, while global datasets that cover specific indicators of interest do exist – such as EM-DAT for information on damage to housing – no comprehensive repository of shelter-related indicators currently provides a comprehensive global overview.¹

To enable us to compare and analyze data, a sub-set of information needed to be created. We chose to gather data for disasters, conflicts and crises between 2013 and 2018 for which a Shelter Cluster (SC) response or SC-like response had been activated (the latter meaning that the shelter sector was active, but the SC system was not). All our findings need to be read in the context of this selection.

The collected data allowed us to analyze information across 153 attributes, such as funding levels and counts of damaged households. We compiled a global master dataset and used it as the basis of our analysis. This dataset could also serve as a starting point for the SC to use as a data framework for future analysis.

We identified three significant gaps in the data, which further limited the scope of our research:

- Although data on shelter and non-food item (NFI) needs is collected through the Humanitarian Needs Overview (HNO) process,² and can be analyzed for such situations, data on needs is not publicly available through Refugee Response Plans (RRP)³ or RRRPs (Regional Refugee Response Plans). Thus it is not possible to directly compare situations of internal displacement and situations with refugee response.
- Data on damage to housing is mostly collected after naturally triggered disasters. It is not systematically available for conflict crises, in part because housing damage is not systematically collected in the early phases of humanitarian response during conflicts, and because such damage often occurs throughout the conflict, not at its onset.
- Data on needs has been systematically recorded since 2013 through the HNO/ Humanitarian Response Plan (HRP) process,⁴ which mostly covers conflict crises. Systematically accessible data on needs arising from naturally triggered crises is available only in documents such as PDFs, making the information difficult to extract and include in our analysis.

Major findings

To provide an understanding of the evidence currently supporting shelter analysis, we sourced, mapped out and combined the datasets listed later in this report. Our findings, based on data collected, are as follows:

- As at August 2018, the five countries with the highest reported needs for shelter and NFI assistance were Yemen, Syria, Democratic Republic of the Congo, Nigeria and Sudan.
- In 2018, 31.2 million people were identified to be in need of shelter and NFI assistance in crises where an SC response or SC-like response was activated. In 2017, out of a total of 147.8 million people in need across all sectors in all countries with an SC response, 42 million people needed shelter and NFI assistance.
- Although funding levels reported by the United Nations Financial Tracking Service (FTS) have increased significantly over the past five years,⁵ the proportion of funding allocated to the SC has remained – on average – around 10 per cent of total funding provided. This percentage is slightly higher for naturally triggered disasters and lower in conflicts.
- In complex emergencies and conflicts, the SC receives a lower proportion of funding than other sectors receive.
- For conflict situations, data on damage and reporting on overall vulnerability indicators are inconsistently available. This suggests that there may be a significant under-funding of SC operations in such emergencies.
- Data on shelter and NFI needs and response are inconsistently recorded,⁶ and are provided on a crisis or country basis, leaving large information gaps

in both time and geographic coverage. This hampers easy aggregation and comparison between crises and countries on the global level, for instance if a country suffers multiple crisis in a given year but the SC is activated for only one of them. This inadequacy further hampers trend analysis and monitoring on country bases.

- Because of inconsistent recording of shelter needs and response over time, it is impossible to track populations moving ‘in and out of need’ or to measure self-recovery. To measure concepts such as achieving durable solutions for internally displaced persons, demographic and needs data are essential. These are collected in collaboration with national statistical offices, highlighting the need for complete and reliable data.
- Data is insufficient in quantity and completeness for analyzing cause–effect relationships and for making longitudinal analyses across countries and crises. The lack of consistently available data for basic shelter indicators is a major constraint on historical information on housing damage, economic loss and health harm for naturally triggered disasters and for conflicts. We also found that disaster-related impact data is largely unavailable for crises in Africa, and for crises in other places that lack national statistics capacity.
- Because only a limited set of crises and countries matched our research criterion of SC activation, our analysis of disaster impact and shelter needs can be indicative only and cannot be used to generalize beyond crises where the SC was activated, or across crises.
- Physical and infrastructure damage in countries with little or no data management capacity remain under-reported.
- Higher levels of funding tend to correspond with data that is properly reported through online data portals. Although this is an encouraging sign for increased accountability, it is also worrying for crisis situations that are severely under-funded but lack data.
- We were surprised to find a negative correlation between SC funding and preparedness; one would expect that higher funding levels would lead to a higher level of preparedness.
- Methodological discrepancies and inconsistent data collection and management practices – such as different crisis and disaster classifications being used across different data sources – impede the combining of data from different datasets. For instance, the SC dataset lists three types of disasters – naturally triggered disasters, conflict, and complex emergencies – whereas ReliefWeb uses 21 disaster classifications.
- Definitions, scope and coverage between datasets are not interoperable, and thus data cannot be reliably compared. This is particularly true of funding data, which is scattered between the SC’s own Operations Dashboard, the Financial Tracking Service, and individual appeal documents.

- There are different repositories for data on humanitarian population figures, funding, and figures for displaced populations, yielding conflicting information. Although there are initiatives to set up centralized data storage platforms – such as the Humanitarian Data Exchange managed by OCHA's Centre for Humanitarian Data in The Hague⁷ – the SC lacks a central, organized location for data storage. While the SC website provides numerous documents on various crises, these are scattered across different webpages and are difficult to retrieve or search.
- There is no centralized storage location specifically for HNO documents that contain core datasets, such as humanitarian population figures.

Gaps in information

The purpose of this review is to detail specific analysis and evidence on current trends in the shelter and settlements sector, highlighting what information we know about shelter needs and response but also – and perhaps more usefully – identifying information that is still lacking, and making recommendations for systematizing future data collection. We found the following significant gaps:

- No generalized set of indicators that can facilitate global comparisons.
- No damage and needs data disaggregated by urban versus rural settings.
- No damage data disaggregated by type of dwelling and composition (such as single-storey versus multi-storey).
- No use of vulnerability characteristics to guide shelter response by crisis and year.
- Difficulty in compiling funding data, breakdowns and allocations, leading to unanswered questions, such as:
 - How much funding is allocated or received each year but not coordinated through SC or SC-like mechanisms?
 - How do interventions with and without SC or SC-like responses compare, such as in average difference in allocated funding per person in need of shelter?
 - How do crises where the SC was activated compare with those where it was not?
- Insufficient data to compare any of the shelter impact analysis indicators of shelter and NFI responses in terms of shelter adequacy; impact of shelter / NFI response in terms of household shelter preparedness; access to earnings; access to education; and mortality, morbidity and life expectancy.
- Gaps in geographic coverage. For instance, little information is available for African countries that suffered a number of protracted and acute crises during our research timeframe.

Recommendations

Based on our research findings, we recommend:

- **Rigorous application of standardized measurement methodologies for humanitarian population figures.**

With the emergence of improved methodologies for calculating humanitarian population figures,⁸ the SC would benefit from a rigorous implementation of such methodologies in all crises, to achieve greater coherence and comparability of data. Training, collection of best practices of humanitarian population figures application in country contexts, and regular monitoring and capturing of those figures at the country level will all lead to greater consistency. The IASC Information Management Working Group Guidance on Humanitarian Population Figures recommends systematic collection of population data,⁹ along with corresponding geographical and demographic information, on a consistent and continuous basis, in situations of internal displacement. It also recommends the development of context-relevant information management coordination structures, monitoring systems, tools, methodologies, partnerships and technologies to capture data on various population categories that are relevant to humanitarian work. UNHCR's efforts to streamline population data management, a process in which the SC has been involved from the beginning, has already established the necessary links between these processes.

- **A general analytical framework.**

Although an approved set of indicators exists for the Global Shelter Cluster,¹⁰ there is no general analytical framework with explicit conceptual categorization of shelter needs and impact. Our review clearly demonstrates that such analysis would be of great value, not only on the global level but also operationally. Development of such a framework will further lead to the revision and update of indicators used. In preparation for the development of the comprehensive framework, core reference datasets can already be identified on the global level, which are currently not systematically collected and analyzed in conjunction. This review can serve as a starting point for identifying such core and merged datasets.

- **A centralized, tabular SC data repository.**

We spent much time locating and extracting information from PDFs, Excel spreadsheets and APIs (application programming interfaces) from various sources around the web. Bringing together disparate data sources in one location is a help, but having the data merged and in a tabular format (and accessible by an API) will allow for more streamlined analysis and reporting. This portal would include, for instance, 4W data, data extracted from HNOs, and data automatically pulled from APIs. The data collected for our research, and the associated code, serve as a valuable starting point for creating this centralized data storage tool.

- **Humanitarian Exchange Language tags (HXL).**¹¹
These are #hashtags included below the headers of Excel spreadsheets on humanitarian subjects. They follow a common standard and enable easy merging of Excel spreadsheets that may use different column names but contain similar content. We found very few distribution documents containing HXL tags, but their inclusion would make future analysis and data merging much easier. The tags can also be included in SC data, such as information from the SC Operations Dashboard.
- **Publishing HNO data.**
Core datasets, such as historic data on humanitarian population figures from HNOs, should be compiled and published through HDX or Humanitarian Response, if they are not already publicly available.
- **Expanding time scope of manually extracted data.**
For HNO/HRP and aid distribution data, we sourced files from 2013 to 2018 only. A broader historical overview of such files could enable a more complete analysis.

Research methodology

This section describes the methodology we followed to arrive at our findings and recommendations.

Four information domains

Firstly, we identified four information domains for research and data audit:

- disaster impact and shelter needs
- shelter response analysis
- shelter gap analysis
- shelter impact analysis.

We then drafted an analysis plan for these four information domains, to help structure our findings, including essential analytical questions to answer, and related indicators.

Data selection criteria

In deciding which data sources to use, we narrowed down our selection based on the following criteria:

- *Timeframe.* For sources whose data could be extracted by automatic means (such as APIs), our timeframe was 2005–18, because 2005 was the year in which the cluster system was introduced. For sources whose data had to be extracted manually, we limited our scope to 2013–18.
- *Covered crises with SC activation.* To define the scope of our research, we chose only countries and years in which the SC was activated or there was an SC-like response. A complete list of these chosen responses can be found online.¹² This was taken from the SC Operations Dashboard.¹³

- *Relevance.* We selected data sources that included information useful for answering our analytical questions and that contained related indicators as outlined in our data analysis plan.
- *Adequate marks on scoring criteria.* We created scoring criteria for attributes such as data completeness and accuracy, then scored each dataset against these measures. Datasets that did not meet a minimum threshold were discarded.¹⁴

Based on discovered datasets that met these criteria, we compiled a core dataset, which we then queried to produce the analysis set out in our analysis plan.

Data collection process

We began our analysis by looking at specific crises for which the SC was activated, using Global Identification (GLIDE) numbers as crisis identifiers.¹⁵ Unfortunately, very few data sources grouped their information by GLIDE number, particularly conflict scenarios.

Given the inconsistent application of crisis labels (GLIDE or otherwise) between datasets, we used as base identifier the country and year in which an SC-activated crisis occurred. Applying this logic, we collated and merged the following datasets into a single master file:

Table 1 Overview of datasets used in analysis.¹⁶

Dataset	Description	Comments
SC Operations	Base listing of SC-activated crises for individual country and year pairings	All other datasets were refined to include countries and years contained in this list
ReliefWeb	List of major disasters since 2005	
DesInventar	Records of houses damaged or destroyed, as well as human impact and economic losses	
Financial Tracking Service (FTS)	Funding data for all sectors by crisis	
UNHCR Displacement Data	Counts of populations displaced, affected, in need, targeted, reached and covered ¹⁷	
HNO, HRPs, RRPps	Important metrics were extracted for humanitarian population figures, funding and others	Collected from various documents
4W (Who, What, When, Where)	Data on aid distributions – used for response and gap analysis	Collected from various documents

Datasets not included but potentially useful

In addition to those already mentioned, the following datasets could be useful in future analyses:

- *Shelter Cluster assessments*. Although we referred to 33 Shelter Cluster assessments covering the period 2010–17, their data was not readily accessible. If further analyzed, these reports could shed light on crises for which information is missing from global datasets, such as those in the Philippines.
- *World Bank Damages and Loss Assessments (DaLA)*. These aim to make the closest possible approximation of damage and losses due to disasters, and are calculated retrospectively. DaLA methodology bases its assessments on the overall economy of the affected country. However, no central repository exists for DaLA data by country or year.
- *Post-disaster assessments*. A systematic analysis of post-disaster assessments over time, by country, and by disaster type would allow triangulation of humanitarian shelter needs data and serve as baseline data for crisis preparedness. However, data from these assessments is not made available in tabular form – only in PDF reports – so it was impossible to extract for this review.
- *EM-DAT*. An important dataset for tracking information on disasters and related losses. The data, however, is not accessible without web scraping. As an alternative, we used DesInventar data (see below).
- *IDMC GRID*.¹⁸ The Internal Displacement Monitoring Centre's Global Report on Internal Displacement is an annual publication based on country-level event-related displacement data.

Shelter needs analysis

Our analysis is structured according to our four information domains:

- disaster impact and shelter needs
- shelter response
- shelter gap
- shelter impact.

Our source was the merged dataset that we produced for this exercise. The specific questions answered, and indicators discussed for each information domain, are available in Technical Annex I.

Disaster impact and shelter needs

As stated above, significant changes have been made since 2013 in the methodology for defining and measuring humanitarian population figures, thus improving the quality of HNOs (which were introduced in 2013 to replace the Common Appeal Process documents) and humanitarian needs assessments.

It is important to note that methodologies for estimating numbers of people in need differ considerably between crises. For instance, someone deemed to be in need in Yemen may not have been deemed in need according to the methodology used in Somalia.

One tool used to gauge need in a humanitarian crisis is the coordinated needs assessment. In 2017, ACAPS and Okular Analytics published a review of 164 coordinated needs assessments carried out since 2001.¹⁹ They are scored partially based on the inclusion of several different elements such as figures of population affected and in need – which have increased significantly over time, as shown in Figure 12.

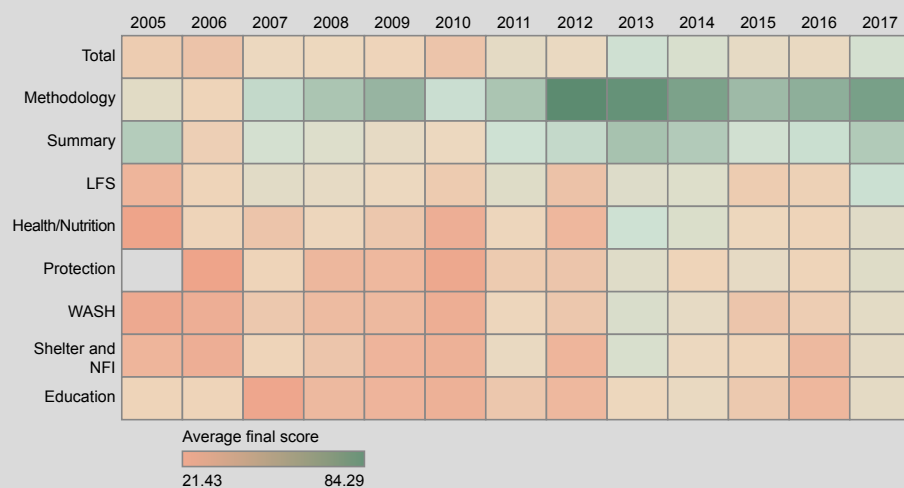


Figure 12 **Information scoring of humanitarian assessments over time, by key areas.**

The coordinated needs assessments review compares analytical value contributed across sectors. Information scores have fluctuated over time. The best scores have been for the methodology sections. Scores declined in 2015 and 2016, and improved in 2017.

We evaluated different aspects of coordinated needs assessments, including methodology and analytical value. We found that information on shelter and NFI needs scored second-lowest across all thematic areas, which indicates the low quantity, quality and inadequate granularity of shelter needs information in multi-sector needs assessments.

The main shelter indicators included in multi-sector needs assessments are generally the types of settlements in which people live, a basic description of levels of damage (where applicable), and priority needs for shelter and NFI intervention. With the introduction of a more rigorous HNO process, multi-sector needs assessments increasingly record shelter type, shelter adequacy factors (size, overcrowding, privacy, security), accommodation arrangements (owned, rented), and other indicators. However, little value beyond simple descriptive analysis is put on the identification of possible cause–effect relationships between shelter indicators and, for instance, health and wellbeing indicators. Analysis in terms of correlations beyond comparing individual indicators between population groups or geographical areas is rare.

Humanitarian population figures

In analyzing humanitarian population figures, we used two main data sources: HNOs or HRPs, in addition to DesInventar. In general, HNO data clearly showed conflict to be linked to much higher population in need figures and to be a more serious concern than naturally triggered disasters. This is also because the world is currently experiencing a higher number of continuing protracted and conflict crises than naturally triggered disasters.

On the other hand, the DesInventar data showed that in naturally triggered disasters the following areas had the highest counts: houses destroyed, deaths, and counts of missing/injured persons. There are two possible reasons for the significantly lower counts of people in need in naturally triggered disasters (compared to conflicts): the vast majority of HNOs between 2013 and 2018 are for conflicts (Iraq, Nigeria, South Sudan, Syria, Yemen and Ukraine). These are also the crises that record the highest numbers of people in need (see Figure 13), although definitions of those figures remain contextual and are not harmonized and therefore are inconsistent for comparison.

Table 2 **Countries with the highest number of people in need of shelter or non-food item assistance in 2018.**

Population in need figures as reported through the Humanitarian Needs Overview, Humanitarian Response Plan, Refugee Response Plans, and Regional Refugee Response Plans.

Country	No. of people in need of NFI	No. of people in need of shelter	No. of people in need of shelter and NFI
Yemen			10,800,000
Syria	4,700,000	4,200,000	
Democratic Republic of the Congo			4,700,000
Nigeria			4,400,000
Somalia		1,500,000	1,500,000
Sudan			3,000,000
South Sudan			2,000,000
Iraq			1,900,000
Ukraine			1,200,000
Bangladesh			908,000
Myanmar			471,653
Mali			300,000
Grand total	4,700,000	5,700,000	31,179,653

In 2018, the five countries reporting the highest needs for shelter and NFI were Yemen, Syria, Democratic Republic of the Congo, Nigeria and Sudan. A total of 31.2 million people were identified to be in need of shelter and NFI assistance in 2018 across the crises where a Shelter Cluster response or a Shelter Cluster-like response was activated, out of a total of 147.8 million people in need across all sectors in those countries. But again, it is important to note that methodologies differ between countries. Hence Yemen ranks highest partly due to the way people in need figures are calculated in that crisis.

Crisis evolution, as well as methodological changes, is also reflected in the reported evolution of shelter needs across those countries with the highest caseload, as shown in Figure 13. Of the current top five complex crises, four have been sustained for five years.

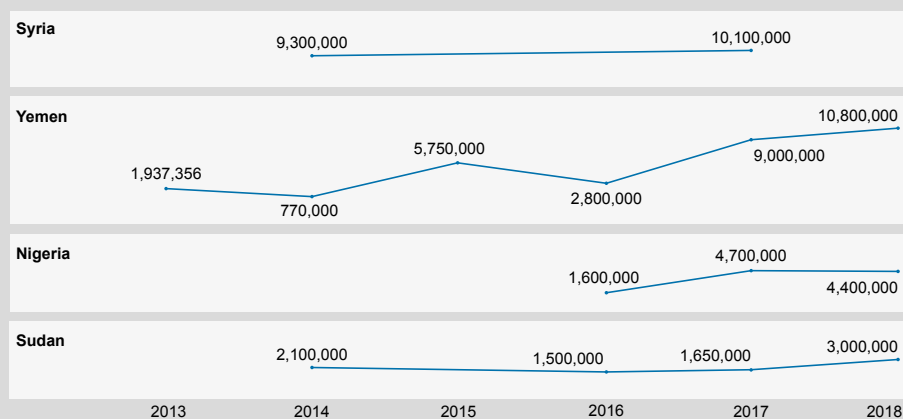


Figure 13 Evolution of shelter needs for five countries with the highest need reported, 2012–2018.

Annual variations in figures for people in need for a given crisis are due not only to changes in the crisis situation, but also to reviews of methodologies and rationale for calculations.

We found several limitations in the people in need data contained in HNOs, HRP and RRP:

- HNOs record total figures for people in need, but do not systematically disaggregate the in-need category by population group or sector.
- Specific counts are not routinely provided for IDPs or refugees in need of shelter.
- RRP do not quantify numbers of people in need and do not disaggregate need by sector, apart from the two most recent RRP for Bangladesh and Afghanistan in 2018. Thus, a direct comparison between needs in IDP and refugee situations or any disaggregation of needs by population group is not feasible.

Figure 14 expands the scope of people in need figures, by including UNHCR data, and by comparing people in need figures and reported displacements with HNO data.

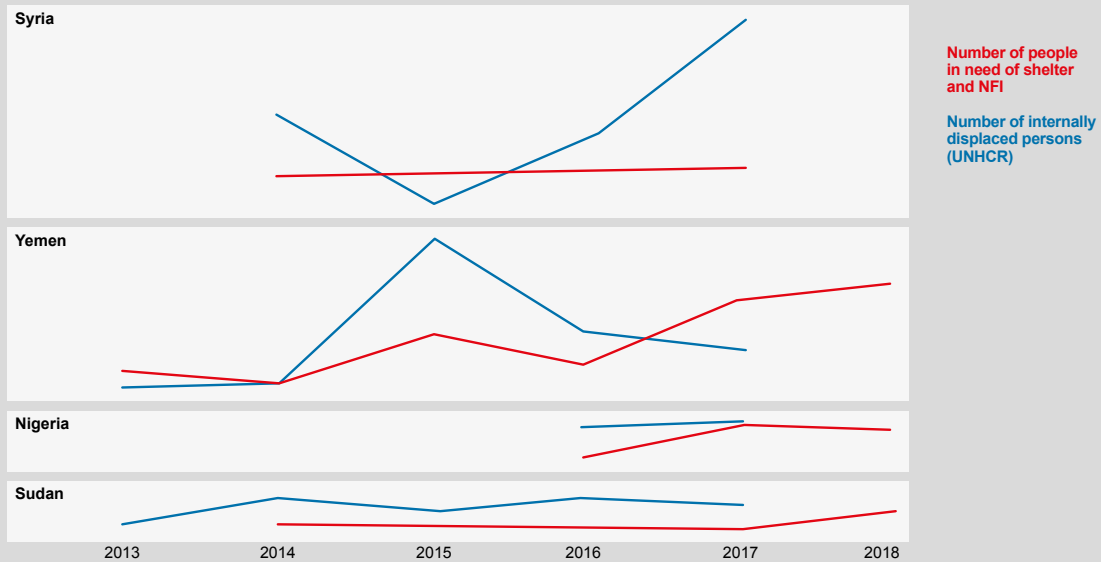


Figure 14 Evolution of needs and displacement, 2013–2017.
 We found a positive correlation between people in need and levels of displacement. But, over time, needs increase after a spike in displacement has been recorded.

In two different datasets providing displacement figures (UNHCR and HNOs), we found a positive correlation between the numbers of people in need (see Figure 14), demonstrating a correlation between people in need and internal displacement, where none could be found between displacement and the assumed reasons that constitute need (such as destroyed or damaged housing). This finding hints at the possibility that a broader, multi-faceted definition or understanding of ‘people in need of shelter’ should be used in shelter needs assessments that are part of multi-sector and other efforts, in order to capture those aspects. The relationship between displacement and damaged and destroyed housing has been long explored. Many people in conflict situations leave their houses, not because these are destroyed or damaged, but because people fear being killed or imprisoned.

In some crises, such as shown for Yemen in Figure 14, the presence of refugees and prevalence of internal displacement does not initially provide an explanation for the people in need figures. Erosion of essential basic infrastructure, malnutrition, and long-running effects on health systems, markets, food production, water and sanitation have increasingly exacerbated a high level of need in the country.

Comparing humanitarian population figures for shelter and NFI with overall (multi-sector) figures from those HNOs shows two crisis-specific discrepancies: the overall population-affected figure is a significant outlier in conflicts and in tropical storms. Such a difference indicates that a much higher number of people is found to be affected by conflicts and tropical storms than people affected in their need for shelter assistance.

One hypothesis for the difference in these figures for tropical storms is that preparedness for tropical storms, as well as displacement to temporary shelters, affects a larger proportion of a country's population.

In naturally triggered disasters, the need for shelter more closely parallels the overall number of people affected – for most people, shelter is the primary need. The multi-dimensionality of needs resulting from conflict and its consequences – such as disruption of basic services, restrictions of freedom of movement, harm to health, and displacement, are undeniably an underlying factor for this large discrepancy between population affected across all sectors and affected in their need for shelter and non-food items.

For other types of crises, the numbers of people affected in terms of shelter needs and overall remain relatively congruent, although numbers of people needing shelter are somewhat higher for earthquakes.

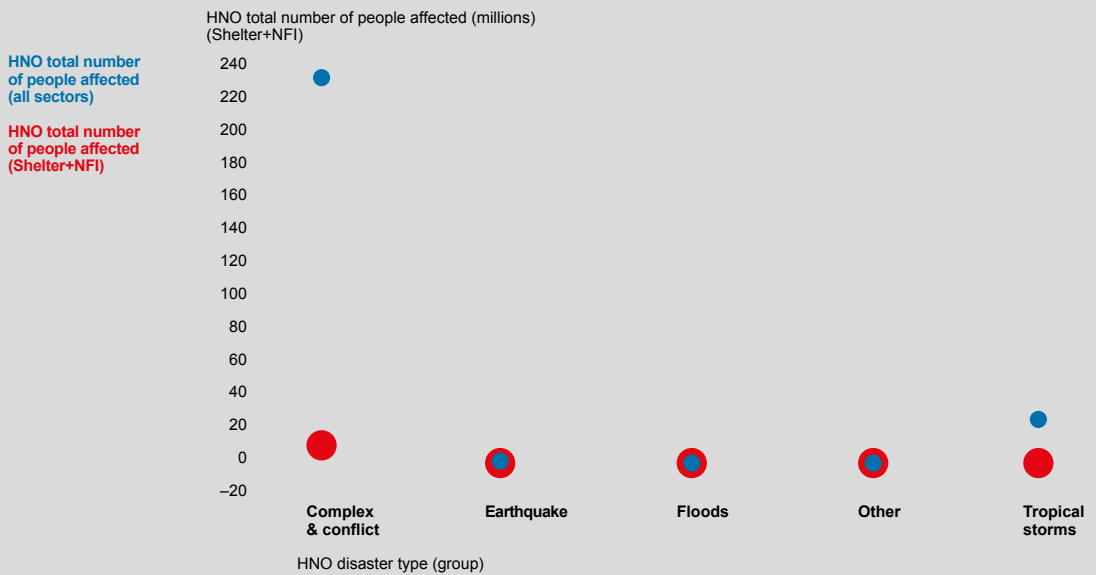


Figure 15 **Number of people affected, by type of crisis, 2013–2018.**

In naturally triggered disasters, the overall need for shelter more closely parallels the overall number of people affected – shelter is the primary need for most people.

A positive correlation was found between people in need and the Middle East and Northern Africa region (more people in need in those countries), while in the Asia Pacific there is a weaker positive correlation. Depending on how 'Middle East and Northern Africa' is defined, and considering the frequent disasters in the Asia Pacific region, this is an interesting finding, and suggests once again the different geographical focus of the consulted datasets, as well as differences in data quality between these regions.

A further correlation was found between the people in need figures derived from HNOs and the timing of data available on the SC Operations Dashboard: the number

of people in need increased in the last quarter of each financial year. This could be due either to seasonal external factors – such as typhoon season and the onset of harsher weather during winter – or to the timing of reporting requirements.

Further positive correlations were found between the HNO people in need figures and the figures reported on the SC Operations Dashboard for populations targeted and reached. Figures of population targeted and reached with assistance in the HNO dataset also show a positive correlation, meaning that a crisis with higher numbers of people in need also tended to have higher numbers of people targeted and reached.

The SC Operations Dashboard differentiates between operations in preparedness and response modes. Interestingly, humanitarian population figures (people in need) have a negative correlation with such operations in preparedness mode.

It is not surprising that data on populations targeted, reached and covered with humanitarian shelter assistance is further limited. Apart from the conceptual gaps in defining those population groups on the sectoral level, the fact that, when collecting data, humanitarian actors apply a diverse range of unharmonized approaches to identify eligibility criteria (vulnerability etc.) for targeting through their own data collection exercises severely hinders the ability of the sector to consistently monitor and report on those figures. This also prevents humanitarian actors from ultimately better understanding the coverage and satisfaction of needs as well as from defining the end of need and the transition into self-recovery.

When looking at data from the SC Operations Dashboard, as well as HNO data, we saw significant discrepancies in reported levels of population targeted and reached in terms of coverage. Moreover, countries such as Iraq, Nigeria, South Sudan and Afghanistan report that a higher proportion of population was reached with assistance than was targeted. In the case of Afghanistan, the population reached with assistance stands at 145 per cent of the reported targeted population.

The countries with the lowest reported proportion of population reached against targeted – less than one-third – are Somalia, Ethiopia, Central African Republic, Bangladesh, Nepal and Peru.

Consistency in methodologies for counting populations is essential for consistent and reliable data. For instance, criteria for measuring people reached with NFI in Syria were changed in 2016; this significantly lowered the number that year compared to 2015.

HNO figures showed similar positive correlations between population targeted and people in need in the Middle East and Northern Africa region, and in conflict settings, for all displacement indicators and also for funding requested and received. Those were the main characteristics of the largest humanitarian crises in the past five years and therefore the result is unsurprising.

We found far fewer positive correlations for the data available on populations reached with assistance. The number of people reached with assistance increased in accordance with the general population, but little data is available on the number of people reached, and no comprehensive data is available on the number of people covered with assistance.

Shelter response analysis

Shelter Cluster funding

One shortcoming of funding data is its dispersion across several different datasets, without a clear overlap. For this reason, we used three datasets for this part of our review: SC Operations Dashboard, the Financial Tracking Service, and HNOs. While the SC Operations Dashboard provides information on funds requested and received, the Financial Tracking Service records funding levels for SC activities only as part of total financial contributions – both within and outside the planned financial requests. Thus, while information is available on what was requested and received, those two datasets are not reliably interoperable. It is also impossible to assess how much of the amount requested was actually funded.

Although funding requirements and funding allocation overall and across sectors have increased significantly over the past five years, the proportion of funding allocated to the SC has remained, on average, at around 10 per cent of total funding allocated. This proportion is slightly higher in naturally triggered disasters and lower in conflicts, despite an increase in absolute funding levels for conflict situations. The lowest share of funding for the SC occurs in complex disasters, dipping as low as only a few percentage points in 2012. This is contrary to the overall funding trend (see Figure 16): funding allocated to conflict crises has steeply increased over the past five years, but funding for naturally triggered disasters has roughly remained the same.

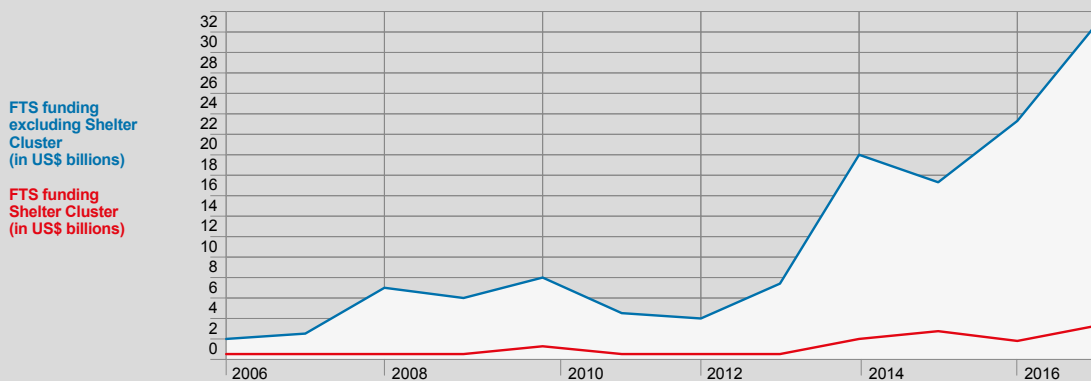


Figure 16 **Shelter Cluster funding compared to all sectors, 2005–2017.**

Annual Shelter Cluster funding averages only 10 per cent of the funding received across all other sectors.

We found that recorded needs are higher in conflict situations than in other types of crisis, and remain higher over time (although damage data is inconsistently available for conflicts, and reporting on overall vulnerability indicators is patchy), thus suggesting a potentially significant under-funding of SC operations in conflicts (see Figure 17).

Comparing funding for the SC with funding for other clusters, the general trend since 2005 has been for the SC to be relatively under-funded. In general, SC funding hovers around 5–10 per cent of all funding, with peaks occurring in 2010 and 2015. According to the data compiled for our research, food security receives the largest share of sectoral funding, peaking at approximately 50 per cent of all humanitarian funding in 2009.

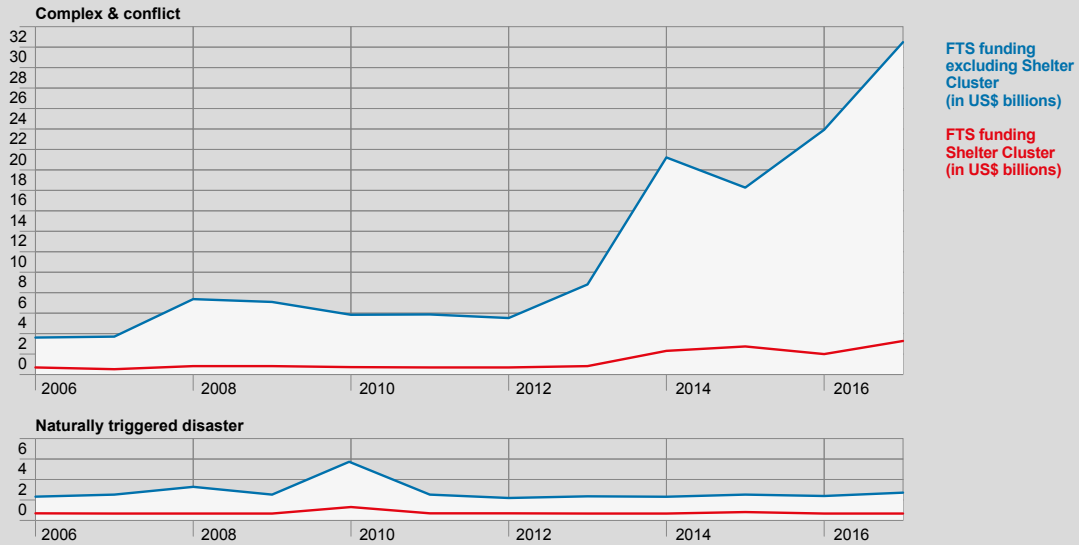


Figure 17 **Shelter Cluster funding compared to all sectors, 2005–2017: complex and conflict disasters (top); naturally triggered disasters (bottom).** Funding for conflict crises has increased steeply, while funding for naturally triggered disasters has remained largely stable.

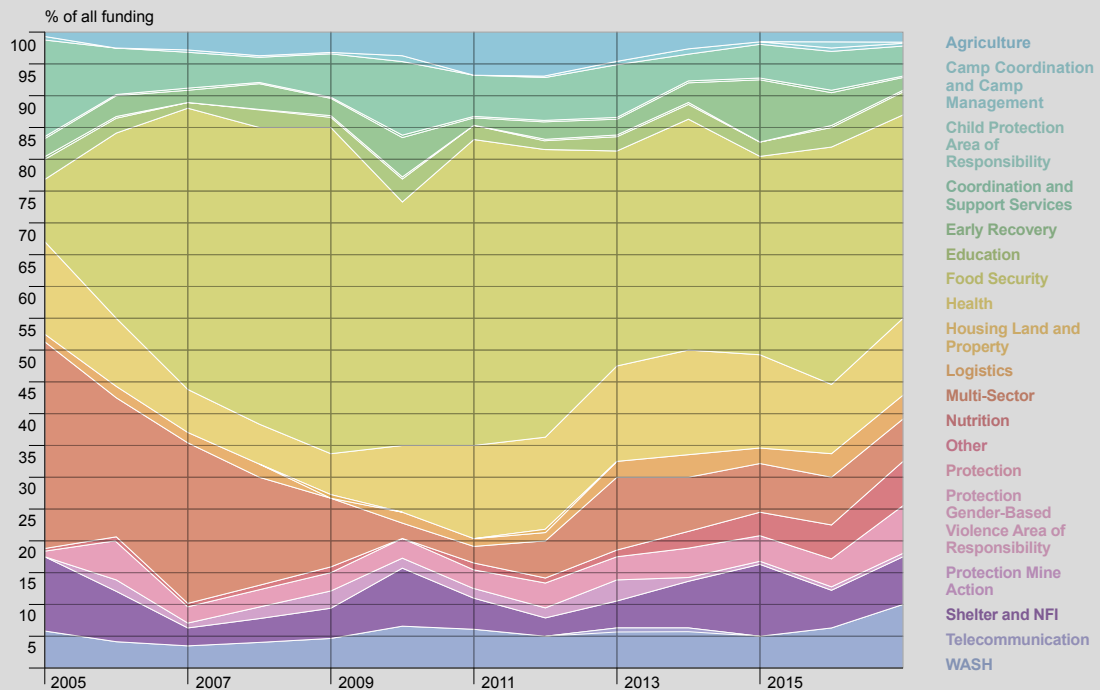


Figure 18 **Proportional funding across all humanitarian sectors, 2005–2017.** Food security receives the largest proportion of overall funding, although its share is decreasing somewhat compared to the other sectors. Funding for emergency shelter and non-food items (purple) has remained at a low, stable proportion – on average 10 per cent of total funding.

Positive correlations were found between SC funding and all displacement indicators, as well as with all humanitarian population figures: as numbers of displaced populations and people in need increase, funding levels increase.

We observed a positive correlation between SC funding levels and data on the SC Operations Dashboard (particularly for the fourth quarter of the financial year): higher levels of funding mean that data is more likely to be uploaded, since dedicated or semi-dedicated personnel can be assigned to managing information. Increased funding could also indicate that more capacity for information management is available to the cluster to maintain the level of reporting. In under-funded scenarios, information management capacity is less likely to be budgeted for.

Another way to look at funding levels is to compare funding as coming from two categories: financial allotments with a ‘plan’ (such as an HRP or RRP), and those without a plan. If a financial contribution is made through an initiative such as an HRP or RRP, then the funding is considered as being part of a plan.

Delving further into SC funding broken down by plan and crisis type, we see that, for complex emergencies, SC funding peaked at being almost entirely funded outside a plan in 2008, but was down to a more even split in 2018. Funding for the SC through plans has historically been highest for naturally triggered disasters, and in 2018 approximately 80 per cent of SC funding for naturally triggered disasters came through a plan.

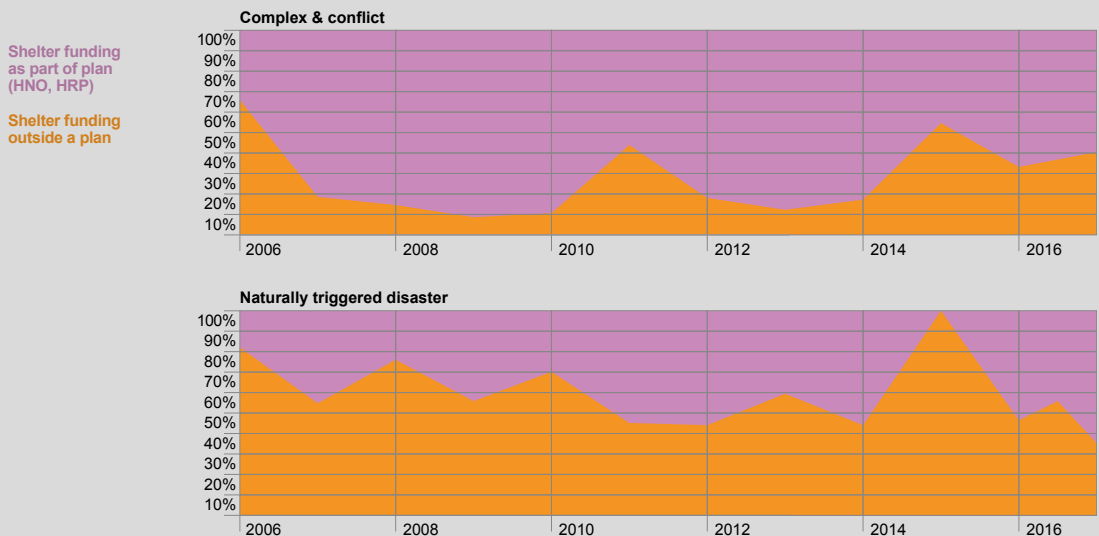


Figure 19 Shelter funding inside and outside a plan (Humanitarian Needs Overview, Humanitarian Response Plan, etc), 2005–2016.

The proportion of shelter funding received as part of humanitarian programme cycle processes is significantly larger in conflict situations than in naturally triggered disasters.

For crises where funding is received outside a plan, we found interesting positive correlations, in contrast to those where shelter funding is part of a plan: a positive correlation with the Asia Pacific region, destroyed housing and deaths. As described above, the indicative findings point towards an under-reporting of the impact of naturally triggered disasters and their overall contribution to shelter needs.

Assistance distribution

When looking at the end results of aid distribution, 4W documents were analyzed to identify what kind of assistance (be it physical items such as tents or building materials, or non-tangible items such as training) was delivered, and to whom. Although detailed further in Technical Annex III, a few findings from this analysis are discussed here.

Comprehensive reporting

To best coordinate and monitor an SC response, there must be an adequately organized and comprehensive dataset reporting all distributions. Without this, actors cannot know to whom aid has already been distributed, or which individuals are in most need.

By categorizing all 4W documents gathered according to country and year, we could create a 'completeness' metric to gauge how well data is being reported back to the SC (see Table 3). Topping this list is Nigeria's reporting in 2017, while the least complete reporting came from South Sudan in 2015. Such a result is interesting, given that South Sudan features among the longest-persisting crises with a high number of people in need.

Assistance types

To gauge which types of assistance are actually being delivered to beneficiaries, we undertook an overview of distribution data. In total, we found more than 520 different types of response activities (such as tarpaulin or cement distributions). Figure 20 shows the most common categories of intervention found before the grouping of sub-categories, and the number of beneficiaries reached. The main type of response reported was distribution of tarpaulins, followed by NFIs and then bedding, followed by provision of repair kits, shelter repairs and latrines (which were sub-categorized into light, medium and emergency repairs), as well as cash. Several instances of education and psycho-social support were found, as well as work to prevent gender-based violence, and other protection efforts such as family reunification.

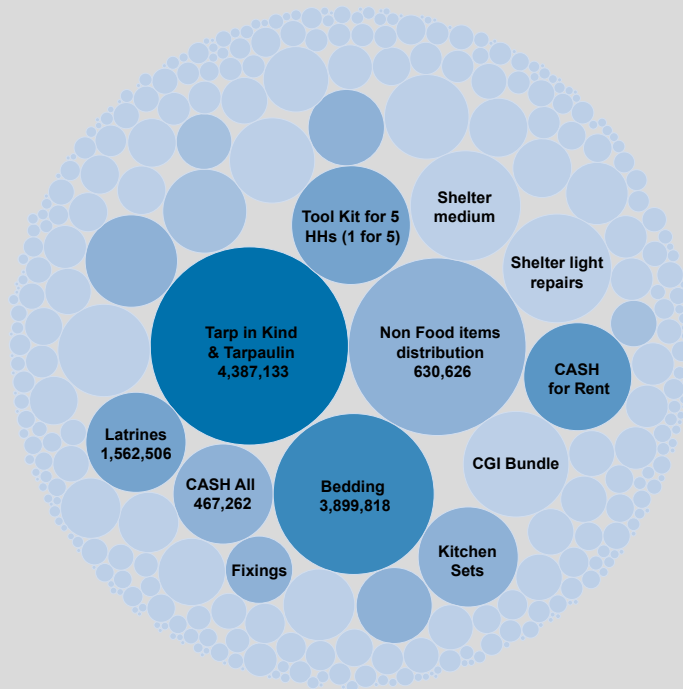
When we categorized numbers of beneficiaries reached according to type of assistance received, we found that tarpaulins, bedding material, and cash for rent benefited the largest numbers of people.

Table 3 **Completeness of data, by crisis.**

Country	Year	Completeness
Nigeria	2017	84%
Pakistan	2015	68%
Nepal	2016	66%
Bangladesh	2018	63%
Iraq	2016	61%
Haiti	2016	60%
Syria	2016	53%
Ukraine	2017	53%
Bangladesh	2017	49%
Iraq	2015	44%
Ecuador	2016	43%
Palestine	2014	42%
Ethiopia	2015	41%
Yemen	2015	41%
Afghanistan	2017	37%
Mali	2017	34%
Yemen	2016	34%
Afghanistan	2016	31%
Afghanistan	2013	29%
Syria	2015	19%
South Sudan	2015	18%

Figure 20 **Type of assistance provided, and number of beneficiaries reached globally, 2013–2018.**

Distribution of tarpaulins, non-food items and bedding are the most reported types of assistance, with the highest number of beneficiaries reached.



- 1 Centre for Research on the Epidemiology of Disasters – CRED (2018) *EM-DAT: The International Disaster Database*. www.emdat.be/database.
- 2 Humanitarian Response (2018) *Needs Assessment: Overview*. www.humanitarianresponse.info/en/programme-cycle/space/page/assessments-overview.
- 3 United Nations High Commissioner for Refugees USA (2018) *Refugee Response Plans*. www.unhcr.org/en-us/refugee-response-plans.html.
- 4 Global Shelter Cluster (2017) *Humanitarian Response Plan (HRP)*. www.sheltercluster.org/somalia/library/humanitarian-response-plan-hrp.
- 5 The Financial Tracking Service is managed by the UN Office for the Coordination of Humanitarian Affairs (OCHA). See Financial Tracking Service (2018) <https://fts.unocha.org/>.
- 6 Shelter and NFI needs are often lumped together. Although they may not be mutually exclusive, for analysis of needs and response they should be separated.
- 7 The Humanitarian Data Exchange. <https://data.humdata.org>.
- 8 'Humanitarian populations' means total populations, affected populations, and populations in need of humanitarian assistance, and figures for planning and response monitoring (populations targeted, reached, and covered), as set out in ASC Information Management Working Group (2016) *Humanitarian Profile Support Guidance: Humanitarian Population Figures*. www.humanitarianresponse.info/en/programme-cycle/space/document/humanitarian-profile-support-guidance.
- 9 Ibid.
- 10 Global Shelter Cluster Accountability Working Group (2013) *Shelter Cluster Indicator Guidelines: Version 2 – Draft*. Global Shelter Cluster. www.sheltercluster.org/coordination-toolkit/documents/gsc-indicators-guidelines-v2.

- 11 *Humanitarian Exchange Language (HXL): A Simple Standard for Messy Data.* <http://hxlstandard.org>.
- 12 *Shelter Cluster Activation Overview.* <https://goo.gl/WpZXzr>.
- 13 Global Shelter Cluster (2018) *Operations.* www.sheltercluster.org/operations.
- 14 Further details on the scoring criteria and detailed results of the scoring of the seven main datasets can be found in Technical Annex I of this report.
- 15 GLIDE numbers are unique codes allocated to individual global crises. They help to relate different datasets referring to the same crises. GLIDENumber (2018) *About GLIDE.* www.glidenumber.net/glide/public/about.jsp.
- 16 Sources for Table 1 include Global Shelter Cluster (2018) *Operations.* www.sheltercluster.org/operations; United Nations International Strategy for Disaster Reduction (2018) *DesInventar Sendai.* UNISDR. www.desinventar.net; Financial Tracking Service (2018) *Humanitarian Aid Contributions.* <https://fts.unocha.org>; E Oglethorpe (8 August 2018) *UNHCR Counts of Populations of Concern.* goo.gl/Ewuc2D; E Oglethorpe (8 August 2018) *Aggregated HNO Data.* goo.gl/Untkic; [Ewan Oglethorpe, August 8th, 2018, Merged 4W Data] <https://goo.gl/M2GQH7>.
- 17 *Covered:* count of population assessed. *Need:* count of population requiring assistance. *Targeted:* count of population towards whom aid is intended to be delivered. *Reached:* count of population actually receiving aid.
- 18 iDMC (Internal Displacement Monitoring Centre) (2018) *Global Report on Internal Displacement 2018.* www.internal-displacement.org/global-report/grid2018.
- 19 Assessment Capacities Project (2016) *Meeting Information Needs? A Review of Ten Years of Multisector Coordinated Needs Assessment Reports.* ACAPS and Okular Analytics. www.acaps.org/sites/acaps/files/resources/files/acaps_report-a_review_of_ten_years_of_multisector_coordinated_needs_assessment_reports_january_2016.pdf.