UNDERSTANDING CHILD SEPARATION IN HUMANITARIAN CRISES: INSIGHTS FROM MULTI-SECTOR NEEDS ASSESSMENTS (2021-2023)

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IMPACT Initiatives

Abstract

This study advances the understanding of child separation and Family Tracing and Reunification (FTR) needs in humanitarian settings. Analyzing 41 Multi-Sector Needs Assessments (MSNAs) from 19 countries (2021-2023), it expands the limited existing data, particularly for non-refugee displaced populations. It first examines family separation rates across various population groups, including instances where FTR is required, and analyzes care practices for Unaccompanied and Separated Children (UASC). Following this, the research identifies some potential predictors of FTR needs, including household characteristics and socioeconomic factors, through a multi-method approach that incorporates cross-tabulations, logistic regression, and machine learning. While data at global level do not indicate a higher proportion of children living outside for any reason amongst displaced households, displaced households exhibit higher FTR needs than the non-displaced ones. Specifically, among households with at least one child living outside, an average of 4.2% of IDP households and 3.1% of refugee households may require FTR, compared to 2.6% of non-displaced households. However, this global pattern masks considerable variation across countries, with several contexts showing substantially higher FTR needs among refugees than non-displaced households. Moreover, multivariate analysis reveals that both refugees and IDP households, once controlling for potential confounding factors, are more likely to be in need of FTR than non-displaced. Additionally, this study advances the understanding of FTR needs in humanitarian settings, revealing a complex interplay of factors beyond displacement status: significant associations between FTR needs and variables such as food security, household structure and access to essential resources were identified. The findings highlight the complex interplay of factors driving child separation and underscore the need for improved data collection methods in future multisectoral needs assessments. These preliminary findings, while subject to further research, offer valuable insights for humanitarian programming, while emphasizing the need for improved data collection methodologies in future assessments to better understand and address this complex issue.

About IMPACT

IMPACT Initiatives is a Geneva based think-and-do-tank, created in 2010. IMPACT is a member of the ACTED Group.

IMPACT's teams implement assessment, monitoring & evaluation and organisational capacity-building programmes in direct partnership with aid actors or through its inter-agency initiatives, REACH and Agora. Headquartered in Geneva, IMPACT has an established field presence in over 15 countries. IMPACT's team is composed of over 300 staff, including 60 full-time international experts, as well as a roster of consultants, who are currently implementing over 50 programmes across Africa, Middle East and North Africa, Central and South-East Asia, and Eastern Europe

About UNICEF

UNICEF is the UN agency working for children and their rights, with a presence in over 190 countries. With a mission anchored in the Convention on the Rights of the Child, UNICEF engages with governments and civil society organizations to promote systems, services and social norms that are protective of children. Under its Core Commitments for Children (CCCs) in Humanitarian Action, UNICEF has committed to preventing and responding to the separation of children from their families and to the promotion of family-based care in the child's best interest. The research presented in this report will help better predict family separation rates in humanitarian contexts, and will strengthen UNICEF and partners capacity to advocate for, prepare, plan, and respond to the situation of unaccompanied and separated children.

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Contents

EXECUTIVE SUMMARY

This report presents findings from an analysis of 41 Multi-Sector Needs Assessments (MSNAs) conducted between 2021 and 2023 across 19 countries. The study aimed to improve understanding of child separation and Family Tracing and Reunification (FTR) needs in humanitarian crises, examining both displaced (refugees and internally displaced persons, or IDPs) and non-displaced populations.

This research makes significant contributions to the understanding of child separation and FTR needs in humanitarian settings by analyzing a large dataset of MSNAs. The study expands the limited existing data, particularly for non-refugee displaced populations, and identifies key factors associated with the need for FTR. However, it's crucial to acknowledge the limitations inherent in the data, including the conservative nature of the FTR need estimates. These limitations, discussed in detail in Section 5, mean that these results should be considered preliminary. Even so, these preliminary findings offer important insights and highlight the need for further research by employing improved data collection methods.

The following key messages summarize the most significant findings.

1. ***At global level, displaced households are more likely to need FTR when they have at least one child living outside***

   Aggregated estimates at global level reveal that, while the overall proportion of households potentially requiring FTR services does not show a higher rate amongst refugees and IDPs compared to non-displaced populations, the situation differs significantly when considering households with at least one child living outside. Specifically, among this subset, an average of 4.2% of IDP households and 3.1% of refugee households may require FTR, compared to 2.6% of non-displaced households. Additionally, multivariate analysis using logistic regression and machine learning reveals that, once controlling for potential confounding factors, a stronger association between displacement status of the household (both IDP and refugees) and the need for FTR. The models also identified other variables (detailed in Key Message 3) significantly associated with higher likelihood of requiring FTR.

2. ***Informal foster care for UASC is a common practice amongst displaced households***

   The analysis also examined the prevalence of households hosting unaccompanied and separated children (UASC). An overall 10.7% of households reported hosting at least one UASC across the 14 contexts where this data was available. In contexts where both IDPs and non-displaced populations were assessed, a comparable proportion (around 18%) of both IDP and non-displaced households reported hosting at least one UASC. This suggests that informal foster care is common. In contexts where this data was collected for refugees, 5.6% of refugee households reported hosting at least one UASC.

3. ***Factors Associated with Family Tracing and Reunification Needs***

   The potential relationships between the need for FTR and other factors were also examined. Key findings include:

   - **Food Insecurity and Coping Mechanisms:** Households experiencing severe food insecurity (high Household Hunger Scale scores) and possessing poor coping mechanisms (low Reduced Coping Strategy Index scores) were significantly more likely to need FTR services. This suggests a strong link between economic hardship and family separation under conditions that might require FTR.

- **Age of Head of Household:** Older heads of household were more likely to be in households that required FTR. This might reflect increased challenges in providing care for children within these households. These findings underscore the multifaceted nature of child separation and highlight the importance of considering a range of factors when assessing FTR needs.
- **Household Structure:** Female-headed households and those with single caregivers were also associated with a greater likelihood of needing FTR, highlighting the vulnerability of these household structures. These relationships were found by the machine learning model and the cross-tabulations. However, the logistic regression model did not find a statistically significant correlation. Thus, more research is needed to assess these relationships.

4. ***Key Improvements to data collection methods were identified***
   The research identified several opportunities to improve data collection related to child separation and FTR within household surveys, in particular in MSNAs. Key recommendations include:

   - **Including child-headed households:** Future assessments could explicitly have an indicator to identify child-headed households to better understand the circumstances of children without parental care. This should be done without subjecting minors to answer the standard questionnaire but rather enumerators should be able to note when an interview was not possible to be conducted because of a child-headed household.
   - **Standardizing questions on hosting UASC:** Consistent questions regarding hosting UASC across all MSNAs would improve comparability and allow for more robust analyses of care practices for UASC.
   - **Enhancing data richness:** Adding questions about the reasons for each child living outside the household, refining the measurement of separation timing, and utilizing a direct question about the need for FTR services could significantly improve the accuracy and completeness of the data. In particular, this will help to measure the prevalence of children needing FTR, rather than just the number of households requiring FTR.

In conclusion, this study provides valuable insights into the prevalence and predictors of child separation and FTR needs in humanitarian settings. While highlighting important patterns and associations, it also emphasizes the critical need for improved data collection to enhance future analyses and inform more effective interventions.

1. INTRODUCTION

This exploratory research aims to improve understanding of Unaccompanied And Separated Children (UASC) in humanitarian crises, examining both displaced and non-displaced populations to identify potential predictive factors related to the circumstances that may increase the likelihood of children becoming unaccompanied or separated.

This research resulting from a collaboration between IMPACT Initiatives and UNICEF, systematically reviewed and analyzed 41 Multi-Sector Needs Assessment (MSNA) datasets from 19 countries (2021-2023). The main objectives were to estimate rates of households potentially requiring Family Tracing and Reunification (FTR) across different populations (refugees, IDPs, host/non-displaced populations), document care practices for UASC, identify factors that correlate with child separation, and develop recommendations to improve future MSNA data collection.

Data on UASC in humanitarian emergencies is scarce, particularly outside of refugee settings. The overarching objective of this research is to contribute evidence to better understand this phenomenon across both displaced and non-displaced populations by leveraging existing data. Better understanding the scale and the circumstances where FTR services are more likely to be needed in humanitarian contexts is crucial for effective response, preparedness, and advocacy efforts.

Two main types of analysis were used for this purpose. Firstly, cross-tabulations were implemented to identify whether these rates were higher within some population groups. Then, multivariate analysis, both parametric (logistic regressions) and non-parametric (machine learning) analysis, were conducted to improve upon the cross-tabulation findings by disentangling the complex interplay of factors (e.g., displacement, household characteristics, socioeconomic conditions) influencing child separation, revealing the relative importance of each, providing a more robust understanding than simple correlations alone.

Key findings highlighted the complex relationship between displacement and child separation, with significant variation across contexts and populations. Furthermore, some household characteristics (e.g., female head of household, single caregiver, older head of household) and socioeconomic factors (e.g., food insecurity, inadequate shelter) emerged as significantly correlated with child separation.

Because the MSNA surveys were not designed to primarily measure child separation, the questions used are not optimally suited to estimate the prevalence of unaccompanied and separated children. This analysis, therefore, leverages two relevant indicators available within the MSNA data as proxy measures[1]. The results should be interpreted cautiously, recognizing their exploratory nature as well as the fact of being conservative estimates, and focused on a household-level perspective on child separation rather than an estimate of overall UASC rates.

The study's limitations were noted with recommendations for future data collection improvements proposed for future multi-sector needs assessments. Improved data collection methods are necessary for a more comprehensive understanding of this phenomenon.

[1] One of the indicators is the percentage of households reporting that at least one child lives outside the household by reason. The other one refers to the percentage of household that reported to host at least one UASC.

2. CONTRIBUTION

This research contributes to existing literature in several ways. Firstly, it contributes to the literature by expanding the existing limited data on unaccompanied and separated children in emergencies. The available data on UASC is widely acknowledged as sparse, particularly in emergency contexts beyond refugee populations (CARE – UNICEF; C Robinson, C Branchini- USAID, 2015 [2]). This study leverages a large dataset from multiple MSNAs across various countries, significantly expanding the available data on child separation.

Secondly, it contributes by providing data particularly on population groups such as non-displaced and internally displaced people (IDP) in a context where "most of the research and evidence on UASC in displacement contexts focuses on refugee populations due to the significant amount of data collected by the United Nations High Commissioner for Refugees (UNHCR)" (CARE – UNICEF).

Moreover, this exploratory research contributes by assessing the correlation of requiring FTR with other needs and demographic characteristics of households. In this regard, data shows that FTR needs correlates with livelihood negative conditions (particularly when measured with the Reduced Coping Strategy Index), shelter conditions and with demographic compositions of the household, such as the age and gender of the head of household.

A critical consideration when assessing the contribution to literature is the difference in scope and sample characteristics between this study and prior research. Available data usually reports the percentage of UASC as a proportion of the total displaced population or, more specifically, as a proportion of the refugee population in camps or other sites in countries of asylum (CARE – UNICEF; Robinson, Branchini - USAID, 2015). It is crucial to note that **the prevalence of households with at least one child living outside, as reported in this analysis, should not be directly compared to overall UASC rates among refugee populations**. On the contrary, findings from research should be seen as complementary to those provided by existing literature.

This is because the MSNA main indicator related to child separation primarily captures households where children are no longer residing with the family members who are part of the survey. Refugee children arriving in the destination country already separated from their caregivers are not typically captured by this particular MSNA indicator in the country of destination. They are only captured if their parents reside in a country where a survey took place.

In the destination country, such separated refugee children might fall under different scenarios outlined in this study: they may constitute child-headed households, be excluded from household surveys if residing in institutional care settings or living with extended family in either the host community or within the refugee community. If residing with another household, these children would be captured not by the prevalence of households with children living outside their household, but rather by an analysis of households hosting UASC. This research also provides an exploratory analysis of a less commonly used indicator within MSNA: whether a household reported hosting a separated or unaccompanied child.

[2] Robinson, C., & Branchini, C. (2015). A systematic literature review of children outside of family care, analysis of selected institutional data, and a preliminary projection tool for measuring separation in emergencies. *Baltimore: USAID*.

Finally, the timing of data collection relative to the onset of a crisis is critical for interpreting these findings and comparing them to existing estimates. Robinson, Branchini - USAID (2015) preliminary projection tool estimates family separation in the immediate aftermath of an emergency; however, the design of MSNAs typically precludes data collection during this critical initial phase. Since the number of separated children is expected to be higher immediately following a crisis and to decrease over time as separations are resolved (with or without FTR intervention), MSNA data, collected after this immediate aftermath, may therefore not take into account the total number of separated children that were resolved between the onset of the crisis and the moment of data collection.

3. METHODOLOGY

This research leveraged a comprehensive dataset compiled from 41 Multi-Sector Needs Assessments (MSNAs) conducted across 19 countries between 2021 and 2023[3]. The MSNAs, conducted by IMPACT Initiatives, provided household-level data on various demographic, socioeconomic, and displacement-related variables. A total of 329 443 households were included in this analysis, representing a diverse range of populations including refugees, internally displaced persons (IDPs), and host/non-displaced populations.

The specific variables included in the analysis are detailed in Annex 1. The metadata (level of representativeness, number of observations, and dates of data collection) for each of the 41 MSNAs is described in Annex 2. Key sample characteristics are summarized in Table 1 below.

Sample distribution across population groups

Population group by displacement status[4]	Number of observations	% of the total sample
Non-displaced	169 426	51.4%
Internally displaced people (IDPs)	111 987	34%
Refugees	30 661	9.3%
Cross-cutting groups [5]	17 369	5.3%
Total	**329 443**	-

Table 1: This table presents the distribution of the sample across different population groups based on displacement status. The categories used reflect common classifications in humanitarian contexts, but it's important to note variations in categorization across different MSNAs. (See Annex 2 for further details on the limitations.). These figures include all households interviewed by MSNAs that answer either the question on having a child living outside or whether they were hosting an UASC.

Importantly, while all 41 MSNAs contributed to the overall dataset, subsets of this data were used for specific analyses. The analysis of households potentially requiring Family Tracing and Reunification (FTR) and households hosting unaccompanied and separated children (UASC) utilized subsets of MSNAs, due to the presence of the necessary questions in different surveys. 40 MSNAs provided data for the analysis of households reporting at least one child living outside the household, while 14 MSNAs were used for the analysis of households hosting at least one unaccompanied or separated child. Additionally, observations not responding to questions on children living outside the household and hosting, respectively, were excluded. Key sample characteristics are presented below in Table 2.

[3] In some contexts, more than a single MSNA took place simultaneously in the same country to cover different population groups (e.g., Bangladesh – 2021 has two MSNAs, one covering only refugees, one covering only host communities). Thus, the number of MSNAs and the number of the combinations country-year where data collection took place differ.

[4] The classification of displaced populations (IDPs and refugees) varied across MSNAs, reflecting context-specific categorizations (i.e., IDPs in/out of camps, returnee IDPs and repatriated refugees). While a more granular analysis incorporating these nuances was also conducted, only the general categories were used in the remainder of the analysis, as only a very few MSNAs included these distinctions. Thus, the use of more aggregated categories of IDPs and Refugees was needed in order to increase statistical power. More details on these nuances by context can be found in Annex 2. This limitation is discussed in the Limitations section and should be considered when interpreting the results.

[5] Surveys without displacement status exist because they could not be clearly attributed to one of the three categories as their sampling was not stratified by displacement status but other markers, or because there were additional groups of people included in the sample, examples of this are Haiti – 2022 (stratification based on urban vs. rural status); Myanmar – 2022 (additional group of stateless non-displaced people); Ukraine – 2023 (stratification based on site vs. out-of-site).

Sample size

Samples	MSNAs	Number of observations
Households with children reporting whether they have children living outside household	40	270 104[6]
Non-displaced		169 037
IDPs		111 782
Refugees		29 464
Cross-cutting groups		17 349
Households reporting whether they are hosting unaccompanied or separated children (UASC)	14	89 504[7]
Non-displaced		46 476
IDPs		24 388
Refugees		14 747
Cross-cutting groups		3 893

Table 2: This table details the number of MSNAs, and households per population group included in the two main analyses: households reporting children living outside and households hosting UASC. The difference in the number of MSNAs reflects the presence of the relevant questions in different surveys.

For the whole analysis, only households with children inside or outside of the household were included in the sample, in order to make the analysis comparable (i.e., households without children were excluded). Then, the analysis proceeded in two stages. First, descriptive statistics and cross-tabulations were generated to explore initial associations between child separation and displacement status, as well as key demographic and socioeconomic factors. The cross-tabulations per MSNA (i.e., within a country in a particular year) are based on the original sample weights. In addition, the aggregated global-level results also used cross-country scaling by population size. For cross-tabulations, households without any children either inside or outside the household were excluded from the analysis to ensure comparability. Additionally, to ensure robust comparisons across displacement groups, the analysis of aggregated global figures used distinct subsets of MSNA data. For instance, comparisons between IDPs and non-displaced populations were based only on MSNAs that included data for both groups; a similar approach was applied to comparisons between non-displaced and refugee populations.

Second, to account for potential confounding variables and gain a more robust understanding of child separation and the likelihood of requiring Family Tracing and Reunification (FTR), multivariate analyses were implemented. Both parametric (i.e., logistic regressions) and non-parametric (i.e., machine learning) models were used. These models were used in an exploratory manner to generate preliminary insights and identify potential relationships and patterns for future investigations. A brief description of the model's specification and machine learning algorithms can be found in Annex 3.

To partially isolate the effects of displacement status (non-displaced, IDP, refugee) on the likelihood of needing FTR services, the analysis employed econometric regression models with MSNA fixed effects. Survey-level fixed effects mitigate potential selection bias stemming from variations in sampling methodologies across different MSNAs[8], ensuring that observed differences across population groups

[6] These figures exclude all the households not responding to questions on children living outside the household.
[7] These figures exclude all the households not responding to questions on hosting UASC.
[8] Different MSNAs, while aiming for similar objectives, might employ different sampling methodologies, resulting in variations in the characteristics of the surveyed populations. These variations could be related to factors such as sampling frame,

accurately reflect the independent influence of displacement status on FTR needs, rather than methodological artifacts. This approach enables a more robust and reliable comparison of FTR needs across the three population groups, controlling for a few confounding factors that were also collected by MSNAs. Furthermore, these fixed effects—at both the country and year levels—account for unobserved, time-invariant country-specific characteristics (cultural norms, legal frameworks, historical context) and time-invariant year-specific events (economic crises, conflicts, policy changes) that could otherwise confound the analysis.

In essence, the fixed effects model creates a more level playing field for comparison across groups and contexts.

3.1 Estimating the Need for FTR

The assessment of households potentially requiring FTR relied on a two-step process. First, the standard MSNA question on child separation, "*Does your household have any child, son, or daughter (<18 years) not currently living in the household?*", was used to identify households with at least one child living outside. Second, to classify whether the separation potentially required FTR, a follow-up question, "*Would you mind telling the reason they are not currently living in the HH?*", was used in conjunction with a pre-defined categorization of reasons. The following table presents the classification of reasons for children living outside the household, distinguishing between those scenarios potentially requiring FTR and those considered less likely to necessitate such services.

Classification of reasons children are living outside their households based on FTR needs

Unlikely to require FTR	Potentially requiring FTR[9]
Left the house to study	Left the house to engage with the army or armed groups
Returned to country of origin	Kidnapped/abducted
Left to seek medical attention	Missing (left and no news)
Married and left the house	Arbitrarily detained
Left the house to seek employment	Forced marriage
Left to look for pasture for livestock	

Table 3: This table categorizes reasons for children living outside their households into those potentially requiring Family Tracing and Reunification (FTR) services and those less likely to necessitate such services. The categorization is based on expert judgment on the base that effective FTR programming extends beyond simple reunification.

sampling technique (e.g., stratified vs. simple random sampling), response rates, or the specific questions asked. These differences in survey design can lead to *selection bias*. If the sampling methods systematically favor certain types of households or populations, then the resulting data may not accurately represent the broader population, biasing comparisons between groups like displaced and non-displaced populations. Fixed effects at the survey level essentially control for these unobserved survey-specific characteristics. The fixed effects model estimates a separate intercept for each unique MSNA. This intercept absorbs all time-invariant characteristics unique to that specific survey, regardless of whether these are explicitly measured or not. By absorbing these survey-specific effects, any differences between groups (e.g., IDPs vs. non-displaced) that are not related to the characteristics being studied are removed, leading to more accurate and unbiased estimates of the influence of the variables being analyzed.

[9] Effective Family Tracing and Reunification (FTR) programming extends beyond simple reunification. It encompasses a holistic, integrated approach that addresses the comprehensive needs of separated children, including case management, family reunification efforts, and, where necessary, the provision of temporary care. These interventions are all integral components of a comprehensive FTR program.

Both planned and "unplanned" cases could also be the resulting outcome of a shock. The same shock can affect families in different ways, based on their vulnerabilities and capacities.

3.2 Households hosting UASC

In addition to the primary analysis of households potentially requiring FTR services, this research also examines the prevalence of households hosting unaccompanied and separated children (UASC).

In contrast to the standardized approach used to assess the need for FTR services, the measurement of households hosting UASC varied across MSNAs, employing different question wordings (Annex 4). This lack of standardization may affect the comparability of results across surveys. The core issue is that differences in question wording can introduce variability into the data, making direct comparisons across different MSNAs challenging. By focusing the comparison on countries where both displaced and non-displaced groups are present *within the same MSNA*, the impact of differing question wording in comparing figures between population groups is significantly reduced because the comparison is now within a more consistent methodological environment.

It is important to acknowledge that the questions used in the MSNAs may not perfectly capture the full spectrum of UASC experiences, especially because interviewees might not have the same understanding of the concept of "hosting a separated or unaccompanied child". Therefore, this analysis should be viewed as an exploratory investigation, treating the MSNA data as proxies for hosting-UASC, and primarily meant to confirm the existence and the scale of informal foster care for UASC across population groups.

3.3 External consultation

The research methodology involved consultations with a range of organizations to gather diverse perspectives and insights. Organizations consulted during this process include United Nations Children's Fund (UNICEF), the United Nations High Commissioner for Refugees (UNHCR), the International Organization for Migration (IOM), the Global Child Protection Area of Responsibility (CPAoR), the Alliance for CPHA, and IMPACT Initiatives. While the feedback received from these consultations was carefully considered and incorporated wherever feasible, it is important to note that the findings presented in this report primarily reflect the perspectives of UNICEF and IMPACT. The input from stakeholders has been invaluable in enriching the context of the study, ensuring a comprehensive understanding of the issues at hand.

4. LIMITATIONS

The findings from this research should be interpreted within the context of several considerations. **Firstly, the estimates of households potentially requiring FTR are conservative due to limitations in the data.** MSNAs are typically conducted after the onset of a humanitarian crisis, meaning that the data mostly reflects unresolved cases of separation. Additionally, the exclusion of child-headed households and UASCs, and potential difficulties in capturing all instances of child separation due to the sampling of the household survey, particularly in hard-to-reach areas, lead to underreporting. **Thus, these results should be interpreted only as a subset amongst all cases of child separation in need of family tracing and reunification.** Moreover, the main MSNA question used as a proxy does not allow to identify whether households have one or more children that might be in need of FTR. In contexts where households typically have more than one child, this is bound to result in a significant underestimation of the number of children in such circumstances.

Secondly, the classification of cases of children living outside the household into likely in need of FTR relied on the assumption that respondents accurately reported reasons for child separation and that the provided reasons accurately reflect the need for FTR services. This assumption, however, is subject to some limitations, again **leading to conservative estimates of FTR needs**. First, underreporting or misreporting for certain reasons (e.g., children joining armed groups) could lead to an underestimation of the true FTR needs. Second, children already identified as separated (i.e., not living with their caregivers) are also at increased risk of experiencing secondary separation, meaning that some households initially classified as *not* requiring FTR might in fact be in need. This inherent limitation likely results in conservative estimates of FTR needs.

Additionally, establishing definitive correlations and associations between child separation and other factors presents some challenges. The lack of precise temporal data on separation timing makes it difficult to fully assess relationships with specific events or shocks. The multivariate analyses, while including important variables, have limited explanatory power, suggesting the need for a more comprehensive dataset and potentially more advanced analytical techniques to fully understand the complex interplay of factors related to child separation. The findings offer valuable preliminary insights into child separation and FTR needs. However, it is important to acknowledge the noted limitations when interpreting the results.

Regarding the analysis of household hosting UASC, as previously acknowledged, the questions used in the MSNAs may not perfectly capture the full spectrum of UASC experiences, especially because interviewees might not have the same understanding of the concept of "hosting a separated or unaccompanied child". Whether this introduced a bias with a clear direction (i.e., under or over reporting) or simply more noise in the data is not possible to determine *a priori* without a better understanding of the cultural interpretation of these questions in countries where MSNAs took place.

Furthermore, the classification of displaced populations (IDPs and refugees) varied across MSNAs, reflecting context-specific categorizations (e.g., IDPs in/out of camps, returnee IDPs, repatriated refugees). While a more granular analysis incorporating these nuances was initially planned, the relatively low proportion of MSNA within the overall sample including this more granular information precluded this level of disaggregation. To ensure sufficient statistical power, the analysis employed

broader categories of IDPs and refugees. Thus, further research is encouraged to assess these nuances and their relationship with FTR needs.

Finally, as with other actors working to collect primary data in humanitarian contexts, IMPACT Initiatives (organization leading the implementation of MSNAs) faces notable constraints related to the contexts in which we operate. First, access limitations have a significant impact on the scope of the sampling frame and thus, representativeness of findings for certain geographic zones and population categories under study. Moreover, after the sampling frame is drawn, changes in the security situation in-country may change, impacting the feasibility of implementing the original sampling frame. Second, a lack of reliable and up-to-date population figures in the contexts where IMPACT operates further complicates study design and sampling, as IMPACT teams may lack visibility on what proportion of the population they are covering. IMPACT employs several strategies to overcome this challenge. Nonetheless, in some contexts these challenges lead to different scopes and coverages of MSNAs across countries, including non-representative samples of some specific geographic zones and population categories. For more details on the representativeness of the MSNAs used in this research, please see Annex 2.

Consequently, the findings should be interpreted primarily as exploratory insights into the rates of households in need of FTR and predictors of child separation, rather than as definitive estimates of population prevalence or robust causal inferences.

5. KEY FINDINGS

5.1 Children living outside the household and FTR needs

Across the assessed MSNAs, a considerable percentage of households (7.9%[10]) reported to have at least one child that is currently not living in the household, showing a wide dispersion across contexts, ranging from over 16% in Niger-2023 to below 1% in the host communities of Bangladesh (Cox-Bazar)-2023 (see Figure A.1 in Annex 6).

Reasons why households have children living outside vary. They include leaving the house to study, to return to country of origin, to seek employment, to look for pasture or leaving the house after getting married, unlikely to require family tracing and reunification (FTR). They also include missing or kidnapped to being arrested or joined an armed group, likely to require FTR. The frequency with which these reasons are reported varies across different countries. For instance, the types of reasons given for child separation significantly differ in the Central African Republic (CAR, 2021) compared to the Democratic Republic of the Congo (DRC, 2023), as illustrated in Figure 1. In some contexts, the proportion of children living outside the household likely to require FTR widely fluctuate across countries as well, being particularly high in Iraq-2022 where more than 25% of households with children living outside (around 1%) were likely to require FTR (see Figure A.1 in Annex 6).

While a considerable percentage of households have children living outside, only a fraction of these report situations requiring FTR. The percentage of household that might require FTR range from 1% (CAR-2021) to almost 0% (Somalia-2022, Colombia-2022, Afghanistan-2022, Ukraine-2023).

Reasons for potential FTR need among households that may require FTR

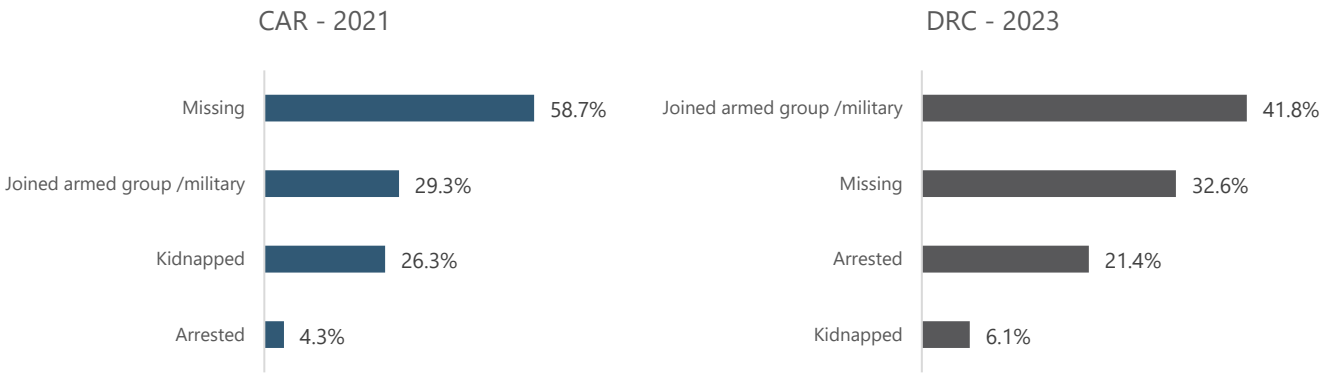


Figure 1: This figure compares the main reasons for potential FTR needs within the subset of households potentially requiring FTR, across two contexts – Central African Republic (CAR) 2021 (subset size of 122 cases) and Democratic Republic of the Congo (DRC) – 2023 (subset size of 178 cases).

[10] Weighted average of households that reported to have at least one child living outside.

5.2 Comparisons across population groups

5.2.1 Global averages

To ensure the robustness of comparisons between population groups based on displacement status, the analysis utilized two distinct subsets of MSNA data. The first subset, comparing host communities and internally displaced persons (IDPs), included only those MSNAs that collected data for both groups. Similarly, the second subset, comparing host communities and refugees, comprised only MSNAs with data for both of these populations[11]. Details on the MSNAs included in each subset are presented in Table 4.

MSNA used for comparing displaced and non-displaced populations

MSNA used for comparisons between	
Host community and IDP	**Host community and Refugees**
Afghanistan 2021 and 2022	Afghanistan 2022
Burkina Faso 2021, 2022 and 2023	Bangladesh 2021 and 2023
Central African Republic (CAR) 2021 and 2022	CAR 2021 and 2022
Colombia 2021 and 2022	Colombia 2022
Democratic Republic of the Congo (DRC) 2021 and 2022	Kenya 2023
Iraq 2021 and 2022	Lebanon 2021
Libya 2021 and 2022	Niger 2021, 2022 and 2023
Mali 2023	
Myanmar 2022	
Niger 2021, 2022 and 2023	
Nigeria 2021	
Somalia 2022 and 2023	
Syria 2023	

Table 4: This table lists the MSNAs used for the analysis of global averages and country-level comparisons of child separation and FTR needs across different population groups. The selection of MSNAs was based on the availability of comparable data for each population group.

In contexts where information about both non-displaced and IDP households is available, similar trends were observed for both groups regarding households with at least one child living outside the home and households with children potentially requiring FTR (see Figure 2 below). However, amongst these households, the proportion that potentially need FTR is slightly higher amongst IDPs (4.2% vs 2.6% amongst non-displaced households with at least one child living outside), which may be attributed to factors such as increased vulnerability due to displacement, such as reduced access to support networks or worse livelihoods conditions.

[11] To obtain average figures across countries, country-level averages were weighted by population size.

Average rates of households with children living outside across MSNAs (2021-2023) by Displacement Status

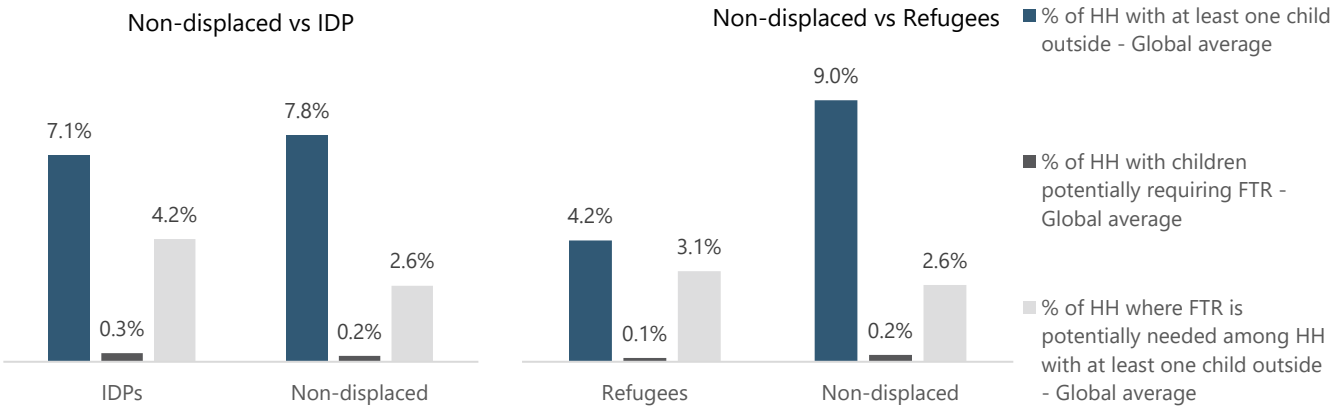


Figure 2: This figure compares the global average rates of households with at least one child living outside the household, those potentially requiring FTR and the proportion of households having at least one child living outside that might require FTR, across different population groups based on displacement status (non-displaced vs IDPs comparisons in the first graph; non-displaced vs refugees in the second graph). The global averages were estimated using country/regional weights and both comparisons were made using different subsamples of MSNAs (see Table 4).

Turning to a comparison of host communities and refugee populations, a different pattern emerges: a significantly higher proportion of non-displaced households had at least one child living outside the household (9% as opposed to 4.2% for refugees). Amongst this subset of households, the proportion potentially requiring FTR was slightly higher amongst refugee households with at least one child living outside (3.1% vs 2.6% of non-displaced households with at least one child living outside).

When looking at aggregated global figures, displaced households appear to report less often that at least one child does not live with the household, compared to non-displaced ones (slightly lower in the case of IDP vs non-displaced). However, amongst those with children living outside, the proportion of households with children potentially requiring FTR is higher for displaced households (slightly higher in the case of refugees vs non-displaced). This suggests that while fewer households have children living outside the home among displaced groups, those households seem to be more likely to be in situations necessitating FTR.

Nonetheless, these conclusions drawn from global averages do not necessarily hold when taking a closer examination of country-level data which reveals a more complex reality with some contexts where refugees exhibit three or even more times higher rates of households likely to require FTR.

5.2.2 Zoom-in into country-level differences

The preceding analysis of global averages reveals interesting patterns in the rates of child separation and the need for FTR across different population groups. However, significant differences were observed across individual crises, underscoring the importance of examining each context independently before drawing broad conclusions. While global averages suggest a lower prevalence of households likely to need FTR among displaced populations compared to non-displaced households, a closer examination of country-level data (Figure 3) reveals a more complex reality.

In several countries, the disparity in FTR needs between displaced and non-displaced populations is considerably larger than suggested by the global averages. For instance, in CAR-2021, compared to non-displaced households (0.7%), the proportion of those requiring FTR were higher among IDPs (1.3%) and even higher amongst refugees (1.9%). In Niger-2022, while this rate is similar between non-displaced and IDP households (0.1%), it is much higher among refugees (1%).

This emphasizes the crucial role of contextual factors in shaping the dynamics of child separation and FTR needs, and the risk of drawing misleading conclusions from aggregated global data alone. The apparent low percentage of refugees' households needing FTR at the global level is largely driven by several specific crisis contexts where these rates are low, such as Bangladesh-2021 and occupied Palestinian territories (oPt)-2022, both contexts being of a protracted nature where primary accidental separation is less likely to happen at scale.

This variation across countries highlights the multifaceted nature of child separation, influenced by an intricate interplay of factors that differ significantly depending on the context of displacement. A more granular understanding of these contextual factors is essential for effective humanitarian interventions. Future research should prioritize disaggregated analysis to account for these crucial contextual differences, rather than relying solely on aggregated, global averages, particularly when investigating the needs of vulnerable displaced populations.

Percentage of households likely to require FTR by displaced population group at country level

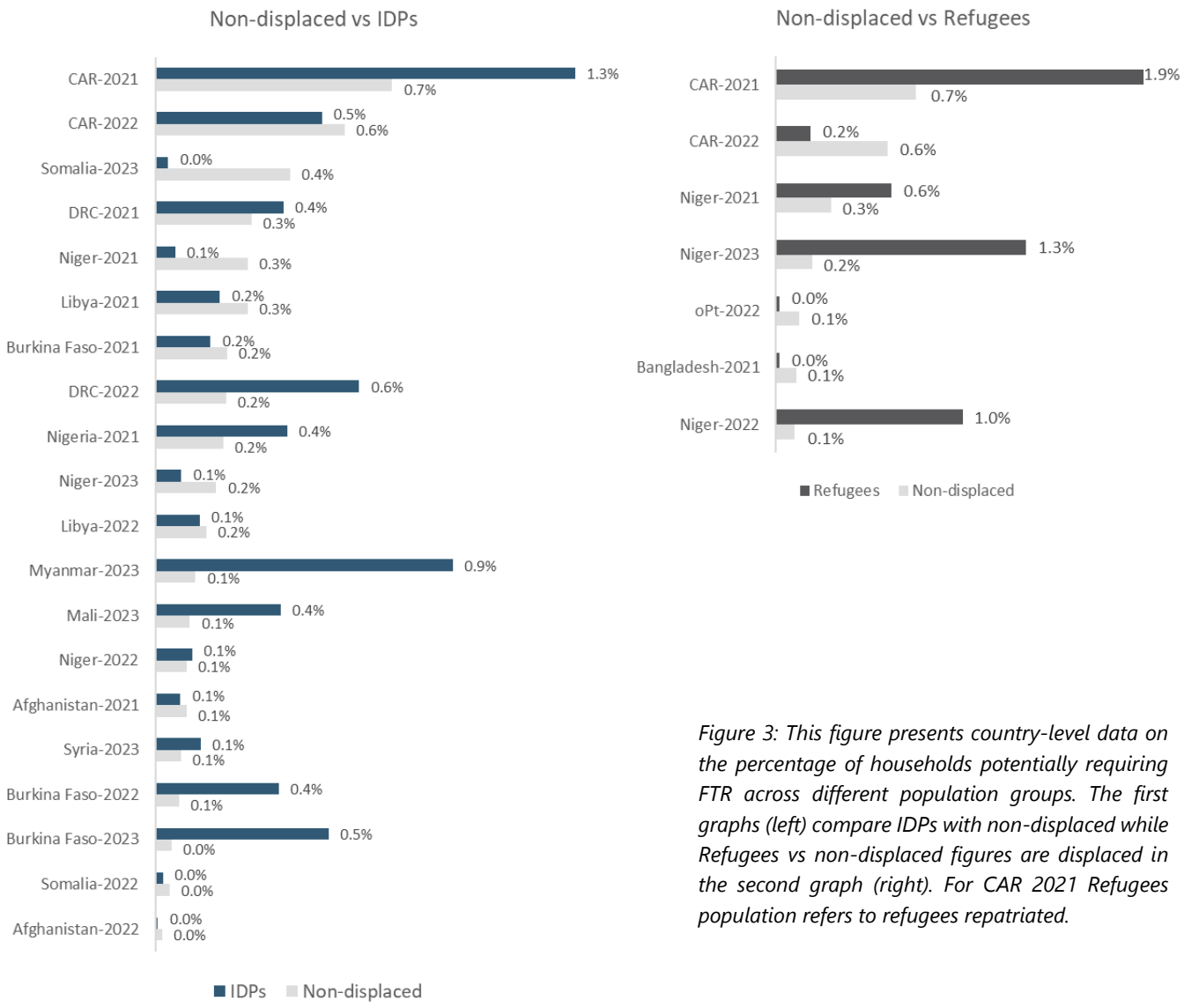


Figure 3: This figure presents country-level data on the percentage of households potentially requiring FTR across different population groups. The first graphs (left) compare IDPs with non-displaced while Refugees vs non-displaced figures are displaced in the second graph (right). For CAR 2021 Refugees population refers to refugees repatriated.

5.2.3 Considerations for interpreting results

There are two important considerations regarding how to read these results. First, these preliminary conclusions are based on simple cross-tabulations, providing a descriptive overview of potential FTR needs across different population groups. However, a more sophisticated understanding is required to disentangle the complex relationships between these variables and account for potential confounding factors. Therefore, we also conducted multivariate analyses using both logistic regression and machine learning techniques (see section "Factors associated with FTR needs: Insights from cross-tabulations, regression, and machine learning").

Second, it is crucial to note that the prevalence of households with at least one child living outside, as reported in this analysis, should not be directly compared to overall UASC rates among refugee populations, as usually reported by existing literature (CARE – UNICEF; C Robinson, C Branchini- USAID, 2015), as explained in the Contribution section. On the contrary, findings from research should be seen as complementary.

This is because the MSNA main indicator related to child separation primarily captures households where children no longer live within the survey's scope. Refugee children arriving in the destination country already separated from their caregivers are not typically captured by this particular MSNA indicator in the country of destination. They are only captured if their parents reside in a country where a survey took place.

In the destination country, such separated refugee children might fall under different scenarios outlined in this study: they may constitute child-headed households, be excluded from household surveys if residing in institutional care settings or living with other families (either from the host community or other displaced families). If residing with another household, these children would be captured not by the prevalence of households with children living outside their household, but rather by an analysis of households hosting UASC. This research also provides an exploratory analysis of a less commonly used indicator within MSNA: whether a household reported hosting a separated or unaccompanied child.

5.3 Households hosting UASC

Overall, 10.7% of households declared hosting at least one separated or unaccompanied child across the 14 contexts where this type of question was asked[12]. When zooming in to contexts where both IDP and non-displaced populations were assessed, for both population groups, a similar proportion of households were hosting at least one separated or unaccompanied child (18% amongst IDPs, and 17% amongst non-displaced – see Tale 5).

Population groups included in MSNAs for analyzing households hosting UASC

Country	Year	Non-displaced	IDPs	Refugees	Other groups
Bangladesh	2021	x		x	
CAR	2021	x	x	x	
Colombia	2021	x	x		
Kenya	2021			x	
Niger	2021	x	x	x	
Nigeria	2021	x	x		
CAR	2022	x	x	x	
Haiti	2022				x
Niger	2022	x	x	x	
Ukraine	2022		x		
Haiti	2023	x			
Niger	2023	x	x	x	

Table 5: This table presents the population groups by displacement status that are present in each MSNA where the indicator on hosting at least one unaccompanied or separated child (UASC) was present.

[12] The measurement of households hosting UASC varied across MSNAs, employing different question wordings (Annex 4). This lack of standardization may affect the comparability of results across surveys. The core issue is that differences in question wording can introduce variability into the data, making direct comparisons across different MSNAs challenging. By focusing the comparison on countries where both displaced and non-displaced groups are present within the same MSNA, the impact of differing question wording is significantly reduced because the comparison is now within a more consistent methodological environment. Nonetheless, while this approach reduces the impact of differing question wording, global-level figures may still reflect residual variability introduced by these differences and compositional effects across countries; therefore, country-level results comparing this indicator across population groups are also presented for a more granular analysis.

However, when comparing this to the analysis for contexts where information about non-displaced and refugees is available, non-displaced households were found to be much more likely than refugees to be hosting at least one UASC (see figure 4 below).

Proportion of households hosting UASC by displaced population group

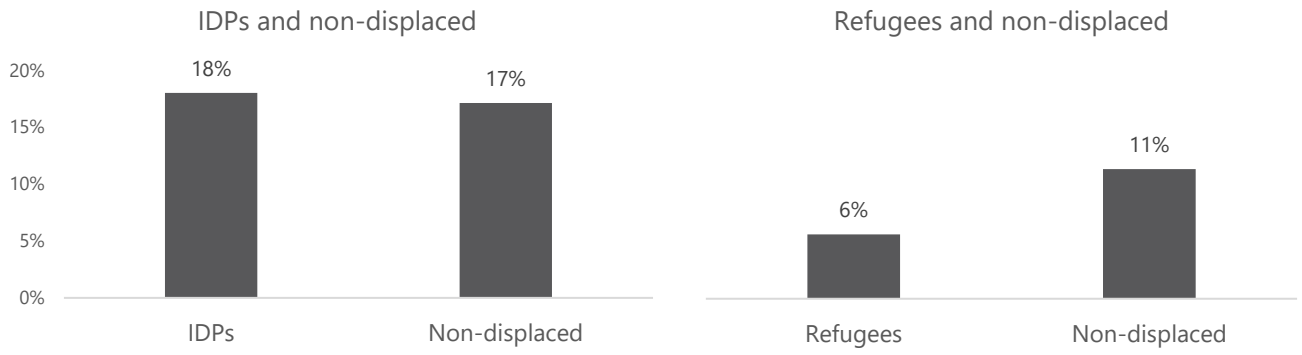


Figure 4: This figure displays the percentage of households hosting at least one UASC by displacement status (non-displaced and IDPs in the first graph, non-displaced and refugees in the second), restricting analysis to contexts where data on both groups were collected, to ensure comparability. The results should be seen as indicative given methodological limitations.

It is important to highlight that in most contexts where this indicator was used, the question asked about whether there is any child in the household that is "separated or unaccompanied". This technical language might not be fully understood by respondents in every context and might be subjected to cultural interpretation. Thus, these results should be interpreted cautiously.

While the reasons why refugee households seem to report hosting less often UASC than non-displaced ones remain to be further unpacked, the findings confirm the practice is relatively common, even more so in IDP settings.

Cross-tabulations show higher UASC hosting rates among IDPs than non-displaced households. However, multivariate analysis reveals a more complex picture. While IDP status showed no statistically significant effect on hosting UASC, refugee status was negatively associated (i.e., there is a negative correlation between both variables). This suggests that the relationship between displacement and UASC hosting is not straightforward and requires further investigation to fully understand the different experiences of IDPs and refugees.

5.4 Factors associated with FTR needs: insights from cross-tabulations, regression, and machine learning

5.4.1 FTR needs

The different analysis methods (cross-tabulation analysis, logistic regression and machine learning[13]) all identified the following 3 factors that make it more likely for a household to have children that potentially require FTR. This link does not necessarily suggest a causal relationship but simply a significant correlation between factors.

- **Household displacement**: while cross-tabulations show relatively more households in need of FTR amongst IDP compared to non-displaced but not the same for refugees, both the logistic regression and the machine learning model[14] showed that refugee and IDP households were more likely to be in need of FTR, once we control for other factors beyond MSNA fixed effects, such as demographic household composition, shelter type or food security related variables (see Annex 5 for further details on the models' specifications). Displacement can lead to accidental separation, for instance, when children become separated in transit sites or refugee/IDP camps or sites, for example, after searching for firewood or during distribution of humanitarian aid – Alliance for Child Protection in Humanitarian Action). Another possible factor that could explain this finding is that when families are displaced, they might lose vital support networks, which can increase the risk of children being separated. TRAFIG policy brief (2021) about urban IDP in the Democratic Republic of the Congo reveals that while displaced families rely heavily on personal networks for housing, employment, and other essential needs, this support is often temporary or insufficient. This might create a context where family structures are weakened, increasing the likelihood of family separation. On the other hand, it is unclear from the data if the children were separated before, during or after displacement.
- **Older head of household:** as shown in Figure 5, the older the head of household, the higher the likelihood of being in need of FTR services. Both the econometric regression and the machine learning models found that the age of the head of household also has significant explanatory power. One possible explanation might be that simply the older the head of household, the more likely to have more children, hence if households have more children, it is more likely to have at least one that has been separated. However, the number of children as well as the ratio of number of children over number of adults were used as control and the age of the head of household remained significant, meaning that this hypothesis do not fully explain how the age of the head of household might be linked to FTR needs. Another hypothesis that could either compete or complement the previous one is that households with older leading adults may face added caregiving challenges, especially in stressful environments. So, they might be less able to protect their children from recruitment by armed groups or other forms of forced separation.

[13] Results from both the econometric regressions and the machine learning model can be found in Annex 5. Their estimated coefficients were statistically significant for a 95% confidence level in the logarithmic regressions.

[14] Based on the SHAP analysis (Machine Learning), households that are led by single caregiver or a female head of household, and those who use unimproved water source types or have no shelter are more likely to have children outside that potentially require FTR. In addition, being a refugee generally pushes the model's prediction in the direction of "anomaly" – potential FTR needs. By contrast, non-displaced households generally exhibit SHAP values closer to zero or on the positive side, suggesting a tilt toward the "normal" class – potentially no FTR needs. Put another way, being non-displaced reduces the model's prediction of child separation compared to refugee households. These results are consistent with the idea that displacement factors—like refugee status—often coincide with greater vulnerability, which the model interprets as an elevated risk for children becoming separated.

- **Higher reduced Coping Strategy Index (rCSI)**[15]: the multivariate analysis (both the machine learning and the logistic regression) found that the higher the rCSI, the more likely that a household is in need of FTR services. Figure 5 shows how particularly for the category "high" (i.e., a rCSI above 18), the proportion of households where FTR is potentially required amongst households with at least one child outside is considerably higher than for the other categories. Households with high rCSI scores experience higher stress levels, which could affect family stability. However, it is unclear how the relationship between both is. One possibility could be that child separation is a coping strategy in itself (when children join armed groups or the military). Evidence reported by Plan International (2022) suggests several pathways this might happen: In Sierra Leone, child recruitment was more likely when armed groups offered money and food; in Liberia, children from displacement camps were recruited by armed groups offering food or were captured while searching for food. A World Bank survey cited lack of livelihoods as a key driver for joining rebel movements and street gangs. This suggests that food insecurity directly motivates some forms of child separation. Any hypothesis in this regard remains to be tested in future research.

Percentage of households likely to need FTR by age of head of household and reduced coping strategy category

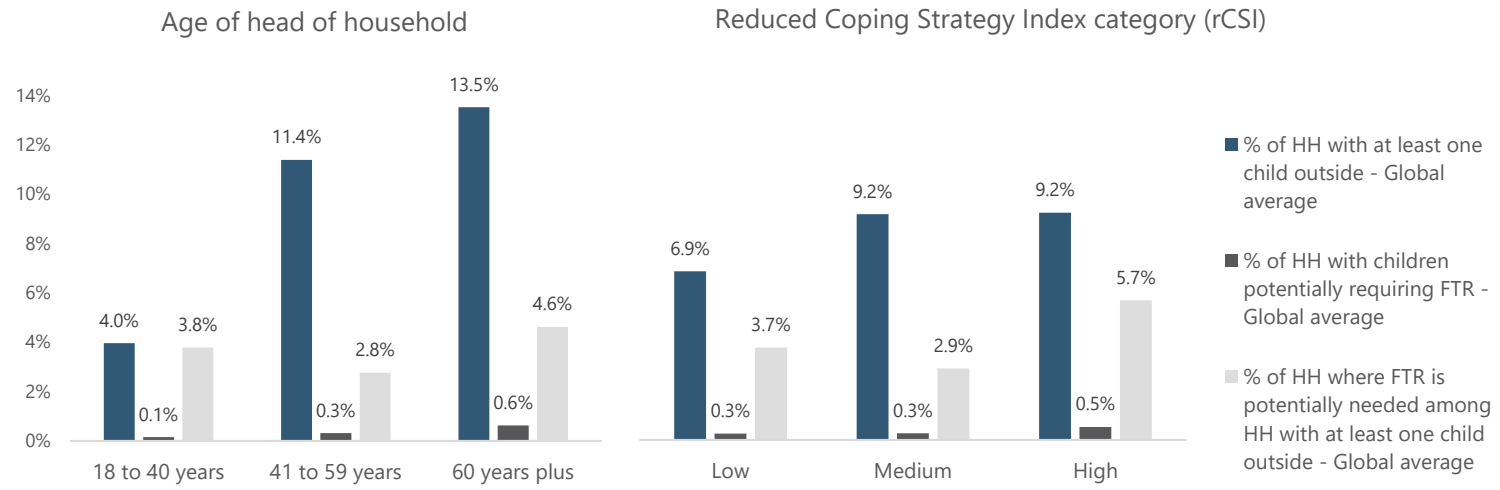


Figure 5: This figure compares the global average rates of households with at least one child living outside the household, those potentially requiring FTR and the proportion of households having at least one child living outside that might require FTR, across different age groups of the head of household (first graph on the left) and across categories of rCSI (graph on the right). The rCSI is classified among three categories: low (0-3) , medium (4-18), or high (18+).

The cross-tabulation and machine learning identified additional factors that could be associated with higher FTR needs. However, their estimated coefficients were not statistically significant for a 95% confidence level in the logistic regressions. This does not mean, nonetheless, that they have no relationship with child separation but rather that this was not identified by this specified model[16]:

[15] The rCSI is a proxy indicator to measure food consumption quantity through consumption-based coping at household level in the last 7 days applied by any household member. It is important to note that this indicator does not provide insight into the nutritional value of the food consumed. The coping strategies are weighted based on severity validated by cross-country studies. A low rCSI means that household members are not engaging in any or only few not severe consumption-based coping strategies to mitigate food consumption gaps. A high rCSI score means that households are engaging in consumption-based coping strategies to mitigate food consumption gaps. For more information, please check this CARE manual.

[16] See Annex 5 for further details on the results of the logistic regression.

- **Female head of household**: some of the methods utilized in this research also found a significant relationship between the likelihood of potentially requiring FTR and the gender of the head of household. In particular, as shown in Figure 6, female-led households seem to be more likely to have at least one child that might require FTR. One hypothesis could be that female-led households often face specific social and economic challenges and that, as consequence, children might be more at risk of separation, for instance, by armed group recruitment due to the social marginalization of female heads of household. Evidence suggests that women-headed households face numerous economic and social disadvantages, including lower earnings, heavier workloads, limited access to resources, and less social support compared to male-headed households. These challenges are linked to various factors such as gender inequality, cultural norms, and the informalization of labor (S. Chant, 2009). However, any hypothesis on whether this vulnerability leads to a higher risk of child separation requires further examination.
- **Single caregiver**: similarly, households with only one adult were found more likely to be in need of FTR by the machine learning model and simple cross-tabulation (as displayed in Figure 6). One possible reason behind this pattern might be that households with only one caregiver may have limited support networks, which might increase separation risk.
- **Household's ability to meet basic needs:** The data suggests that a household's ability to meet basic needs is closely linked to the likelihood of needing FTR. This relationship can be observed through the following indicators:
    - **Household Hunger Scale (HHS)**[17]: A correlation between higher HHS scores (indicating severe food insecurity) and an increased likelihood of needing FTR was also identified. This aligns with the observation that food insecurity is often linked to other forms of hardship that could contribute to family separation. Further research is required to disentangle the direct and indirect effects of hunger.
    - **Unimproved water sources**[18]: households with unimproved water sources seem to show a significantly higher likelihood of needing FTR according to some of the methods utilized by this research. What is the subjacent relationship between these variables is unknown. One possible explanation is that both could be related to underlying causes such as economic hardship, infrastructure development and presence of services in some geographic areas. This relationship should be explored further to understand these complex linkages.
    - **Inadequate shelter**: An association seems to exist between inadequate shelter and a greater likelihood of needing FTR. While the absence of an adequate shelter does not directly cause separation, it might exacerbate existing vulnerabilities and increase the risk of various other factors that contribute to child separation such as poverty, violence, and lack of access to basic necessities. Further research is needed to confirm this.

[17] The HHS is a proxy experiential indicator to measure food access at household level by measuring three severe manifestations of hunger. For more information, please check this FANTA Guide

[18] Water sources are classified into categories as a proxy for water quality. An unimproved water source is one which by nature of its design and construction has not the potential to deliver safe water. For further reference, please check this JMP resource.

Percentage of households likely to need FTR by sex of head of household, single caregiver status, household hunger category, water source type and shelter type

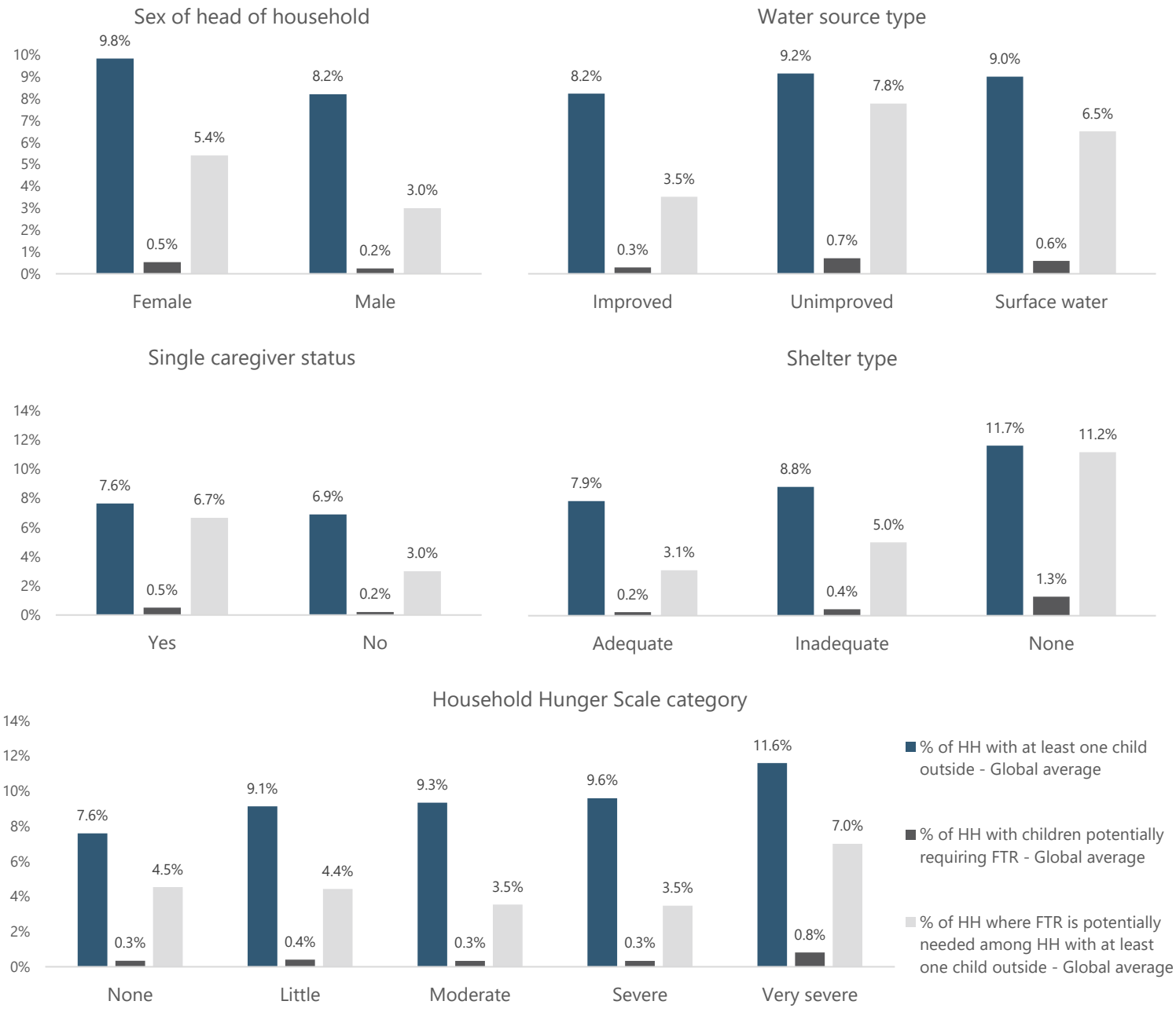


Figure 6: This figure compares the global average rates of households with at least one child living outside the household, those potentially requiring FTR and the proportion of households having at least one child living outside that might require FTR, across: (1) sex of the head of household (first graph, at the left-top of the figure); (2) water source type (second graph, at the right-top of the figure – for more details on water source classification see Annex 1); (3) single-caregiver status of the head of household (third graph, at the left-middle of the figure); (4) shelter type (fourth graph, at the right-middle of the figure – for more details on shelter classification see Annex 1); and (5) the Household Hunger Scale (fifth graph, at the bottom of the figure – for more information on how the HHS is estimated, see Annex 1).

5.4.2 Hosting UASC

Multivariate analysis of households hosting UASC was limited only to the use of a logistic regression[19]. This method and cross-tabulations both found the following correlations with the following indicators.

- Households **experiencing severe food insecurity** (high HHS scores) and possessing poor coping mechanisms (low RCSI scores) are significantly more likely to host separated children (see Figure 7). This finding may seem counterintuitive, as one might expect that households struggling with food security would be less likely to take in additional children. However, several potential explanations could account for this trend. For instance, if child separation often occurs within families facing economic hardship in impoverished communities, this might lead to an increased likelihood of caregiving arrangements among households facing food insecurity.
- **Female-headed households** also show higher rates of hosting UASC compared to male-headed households, as displayed in Figure 7.
- When conducting a multivariate analysis (logistic regression), the three of them, female head of households, HHs score and RCSI scores seem to have a positive and significant correlation with hosting a separated child. Other variables, such as the age of the head of households were found to have a positive correlation with hosting UASC. However, cross-tabulation does not seem to show such a clear trend. **Further research is needed to study more in depth these links identified by this exploratory analysis.**

Percentage of households hosting at least one UASC across selected MSNA

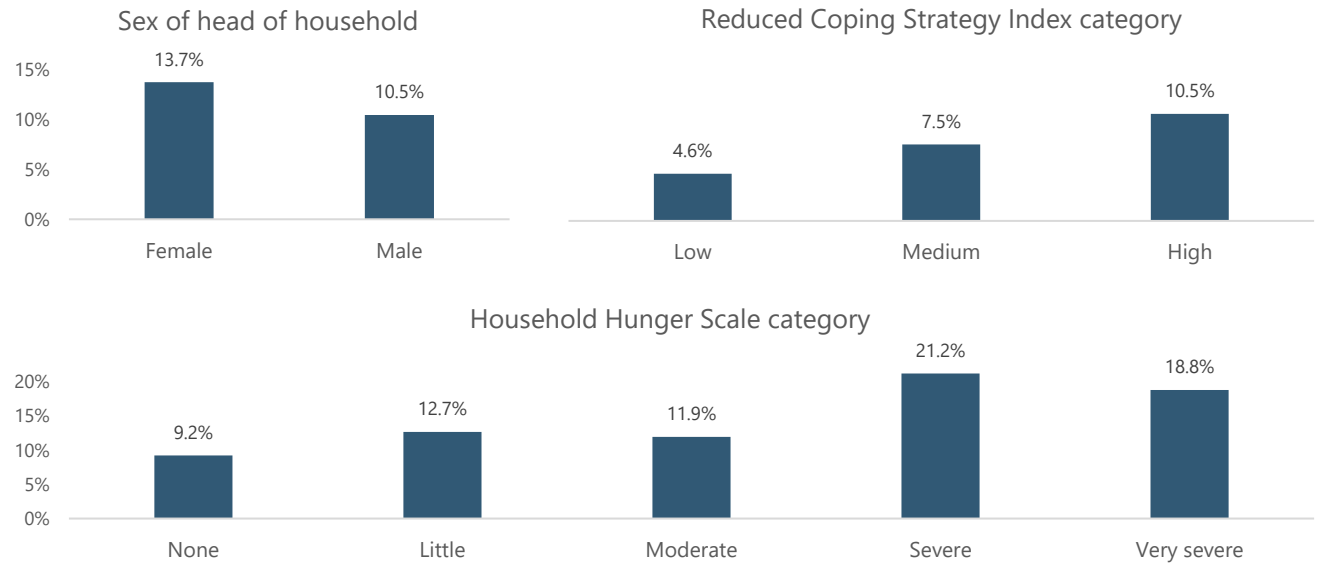


Figure 7: This figure compares the global average rates of households hosting at least one UASC across: (1) sex of the head of household (first graph, at the left-top of the figure); (2) reduced Coping Strategy Index category (second graph, at the right-top of the figure – for more information on how these categories are created see Annex 1); (3) Household Hunger Scale category (third graph, at the bottom of the figure – for more information on how these categories are created see Annex 1).

[19] Machine learning models typically benefit from larger sample sizes, as more data can improve the model's ability to generalize and perform well. Given that the indicator on households hosting UASC is present in a smaller subsample, the machine learning exercises excluded the analysis of this indicator in question.

6. KEY TAKEAWAYS FOR OPTIMIZING MSNA DATA COLLECTION AND USE

This analysis offers valuable insights into how MSNA data collection methods could be refined to provide a more comprehensive understanding of child separation in humanitarian settings. It is important to recognize that MSNAs are not designed to serve as dedicated child protection surveys; their strengths lie in their multisectoral approach and the ability to be utilized by non-specialized personnel. While current MSNAs collect valuable data, several enhancements —considering these factors— could strengthen the analysis and inform more effective interventions.

6.1 Addressing methodological gaps

Through the analysis of MSNA data two main methodological gaps were identified:

1. **Identifying child-headed households:** To achieve a more comprehensive understanding of child separation, future MSNAs could explore methods for including child-headed households. This might involve adapting questioning techniques to be age-appropriate and ensuring the ethical considerations around interviewing minors are fully addressed. In contexts where child-headed households are prevalent, this adaptation is particularly important.
2. **Standardizing questions on UASC hosting:** Harmonizing questions related to hosting unaccompanied and separated children (UASC) across MSNAs would greatly enhance cross-country comparability. The development and implementation of standardized, clearly defined questions could significantly improve data quality and analytical capacity. This standardization should include specifying the age range for UASC and providing a clear definition of "hosting."

6.2 Enhancing data richness and accuracy

Additionally, the current set of questions could be complemented or refined depending on what is the potential utilization that this data will have. Here are three main recommendations and what each of them could allow:

1. **Asking the number of children per reason:** Currently, some MSNAs ask the total number of children living outside the household but not the reasons for each child's absence. Asking about the reasons for *each* child's absence from the household, rather than just the total number of children living outside the household, would allow for a more precise assessment of the prevalence of children in need of FTR instead of identifying proportion or number of households in need. Nonetheless, it should be noted that this needs to be balanced with imperative in MSNAs to keep required questions in each sector minimal. It should also be noted that this alternative framing of questions might result in sensitive or re-traumatizing situations in some contexts.
2. **Refining the measurement of separation timing:** To strengthen causal analyses, future MSNAs could consider incorporating questions that help determine the timing of child separation. This information would allow researchers to better understand the relationship between separation and triggering events, such as shocks or crises. However, the limited

number of questions in MSNAs necessitates careful consideration of the relative importance of this information compared to other indicators, and its utility should be assessed within each specific context.

3. **Improving the identification of FTR needs:** Future MSNAs could explore methods to improve the identification of households needing FTR services. One possible approach could be to supplement the question about reasons for separation with a direct question about the household's need for FTR services. While this might reduce the richness of data regarding reasons for separation, it would enhance the accuracy of FTR needs identification.

7. ANNEXES

ANNEX 1

Variable name	Variable Code	Data source	Values	Note
Children living ouside the household	children_ outside_ hh	MSNA	Yes; No [All children living with the household]	
Children living ouside the household - by reason	child_sep_severity	MSNA	**No children outside of the household** = All children living with the household; **No FTR is required** = Children outside household but NOT requiring family tracing or reunification; **FTR is required** = Children outside household and requiring family tracing / reunification	MSNA response options to why there is at least one child living outside the household into whether FTR is required or not were conducted based on expert judgement on whether these situations are likely to require FTR or not. More precisely, "**No FTR is required"** included the following answers: Left the house to study; Returned to country of origin; Left to seek medical attention; Married and left the house; Left the house to seek employment; Left to look for pasture for livestock. "**FTR is required"** included the following responses: Left the house to engage with the army or armed groups; Kidnapped/abducted; Missing (left and no news); Arbitrarily detained; Forced marriage (e.g., to armed group members in Haiti)
Household hosting a UASC	sep_children_hosting	MSNA	Yes; No	
Displacement status	displ_status_general	MSNA	IDP; Refugee; Non displaced	
Gender of the head of household (HoH)	hoh_gender	MSNA	Female; Male	
Age of the HoH	hoh_age	MSNA	Integer >= 18	
Age of the HoH - by age group	hoh_age_cat	MSNA	18-24; 25-39; 40-59; 60+	
Ratio of number of children over number of adults in the household	child_adult_ratio	MSNA	Integer >= 0	
Whether the household have children (either living in the household or outside)	children	MSNA	Yes; No [Household with at least one child living inside or outside household (regardless biological linkages)]	
Number of children living in the household	num_children	MSNA	Integer	
Number of adults living in the household	num_adults	MSNA	Integer >= 1	
Whether the hosuehold has a single caregiver	single_caregiver	MSNA	Yes; No	"Yes" if children living with household and only one adult member in the household; No if children living with household and multiple adults
Food Consumption Score (FCS)	fcs_score	MSNA	Integer >= 0 and <=112	The Food Consumption Score (FCS) is a proxy indicator to measure diversity of food consumed in the last 7 days at household level by most household members (excluding small quantities). Typically, recognized as proxy for food diversity; best used to understand the nutritional value of foods that people are eating. Consumed food within 9 food groups is recorded and weighted (according to nutritional apport), to produce one final score per household. For more information, please check this WFP Guidance Note
Food Consumption Score - by category	fcs_category	MSNA	Poor; Borderline; Acceptable	Final FCS fall under three categories: Acceptable (35+) , Borderline (21.5-35) or Poor (0-21)FCS. An acceptable FCS assumes that a household has a daily consumption of staple foods and vegetables and a frequent (4 days/week) consumption of oil and pulses, a diet still likely to have a low content of bioavailable micronutrients. A poor FCS assumes that households are not consuming at least staple foods and vegetables daily and are therefore considered to have poor food consumption.
Household Hunger Scale (HHS)	hhs_score	MSNA	Integer >= 0 and <=6	The HHS is a proxy experiential indicator to measure food access at household level by measuring three severe manifestations of hunger.

Household Hunger Scale (HHS) - by category	hhs_category	MSNA	None; Little; Moderate; Severe; Very Severe	For more information, please check this FANTA Guide
Reduced Coping Strategy Index (rCSI)	rcsi_score	MSNA	Integer >= 0 and <=56	The rCSI is a proxy indicator to measure food consumption quantity through consumption-based coping at household level in the last 7 days applied by any household member. It is important to note that this indicator does not provide insight into the nutritional value of the food consumed. The coping strategies are weighted based on severity validated by cross-country studies. A low rCSI means that household members are not engaging in any or only few not severe consumption-based coping strategies to mitigate food consumption gaps. A high rCSI score means that households are engaging in consumption-based coping strategies to mitigate food consumption gaps. For more information, please check this CARE manual
Reduced Coping Strategy Index (rCSI) - by category	rcsi_category	MSNA	Little; Medium; High	The final rCSI is classified among three categories: low (0-3) , medium (4-18), or high (18+).
Whether the hosuehold received humanitarian assistance in the last 3 months	received_assistance_3m	MSNA	Yes; No; Don't know; Prefer not to answer	
Whether the hosuehold received humanitarian assistance in the last 6 months	received_assistance_6m	MSNA	Yes; No; Don't know; Prefer not to answer	
Whether the hosuehold received humanitarian assistance in the last 12 months	received_assistance_12m	MSNA	Yes; No; Don't know; Prefer not to answer	
Livelihood Coping Strategy Index, by category	lcsi_score	MSNA	None; Stress; Emergency; Crisis	The Livelihood coping strategies for food security (LCS-FS) is an indicator used to measure the extent of livelihood coping households need to utilise as a response to lack of food or money to purchase food during the 30 days prior to the survey. This involves longer-term alteration of income-earning or food production patterns and one-off responses such as asset sales due to lack of food. Households relying on livelihood coping strategies due to lack of food are classified based on the severity associated with the strategies applied - the higher the category, the more severe and longer-term are the negative consequences for households. The stress strategies indicate a decrease in the household capacity to manage future shocks, while crisis and emergency mechanisms reduce the future household productivity with an increasing intensity passing from the former to the latter. For more reference, please check this WFP technical guidance
Type of water source	water_source	MSNA	Improved; Unimproved; Surface	Water sources are classified into three categories as a proxy for water quality. An improved water source is one which by nature of its design and construction has the potential to deliver safe water. For further reference, please check this JMP resource.
Shelter type - by classification	shelter_type	MSNA	1; 2; 3; 4	In the frame of the MSNA, the distinction between adequate / inadequate shelter is based solely on the type of structure and housing situation of the household. This distinction is made assuming that certain types of structures can provide adequacy components while others cannot.
Number of household members with disabilities of the most severe category	wgq_dis_4_n	MSNA	Integer	Using the Washington Group Short Set on Functioning (WG-SS) questions assess the extent of disabilities across five different dimensions: Vision, hearing, mobility, cognition, self-care and communication. The level of functioning for each dimension ranges from "No difficulty", "Some difficulty", "A lot of difficulty" to "Cannot do at all". The number of people for this indicator is the sum of household members who "cannot do at all" function in any of the dimensions.
Number of household members with disabilities of the most	wgq_dis_3_n	MSNA	Integer	The number of people for this indicator is the sum of household members who "cannot do at all" or "have a lot of difficulty" functioning in any of the WG-SS dimensions.

or second most severe category				
Number of household members with disabilities of the most severe, second or third most severe category	wgq_dis_2_n	MSNA	Integer	The number of people for this indicator is the sum of household members who "cannot do at all" "have a lot of difficulty" or "some difficulty" functioning in any of the WG-SS dimensions.
Household members with disabilities of the most severe category	wgq_dis_4_at_least_one	MSNA	0; 1	This binary indicator is 1 when there are any household members who "cannot do at all" function in any of the dimensions.
Household members with disabilities of the most or second most severe category	wgq_dis_3_at_least_one	MSNA	0; 1	This binary indicator is 1 when there are any household members who "cannot do at all" or "have a lot of difficulty" functioning in any of the WG-SS dimensions.
Household members with disabilities of the most severe, second or third most severe category	wgq_dis_2_at_least_one	MSNA	0; 1	This binary indicator is 1 when there are any household members who "cannot do at all" "have a lot of difficulty" or "some difficulty" functioning in any of the WG-SS dimensions.
Number of total fatalities in the last 3 months in the the admin 2 (ACLED)	fatalities_3m	ACLED	Integer	
Number of total conflict events in the last 3 months in the the admin 2 (ACLED)	events_3m	ACLED	Integer	
Number of total fatalities in the last 6 months in the the admin 2 (ACLED)	fatalities_6m	ACLED	Integer	
Number of total conflict events in the last 6 months in the the admin 2 (ACLED)	events_6m	ACLED	Integer	
Number of total fatalities in the last 12 months in the the admin 2 (ACLED)	fatalities_1y	ACLED	Integer	
Number of total conflict events in the last 12 months in the the admin 2 (ACLED)	events_1y	ACLED	Integer	

ANNEX 2: MSNA Metadata – selected MSNAs (2021-2023) used in this research

Country	Year	Date of data collection	Sample size	Representativeness	Limitations	Population groups
Afghanistan	2021	04/08/2021 - 03/10/2021	9'880	90/10	Indicative only: Ghazni, Kabul, Kapisa, Kunar, Laghman, Nangarhar, Panjsher and Parwan	HC; Non-recent displaced; Recent displaced
Bangladesh - Host community	2021	12/07/2021 - 18/08/2021	1'118	95/10		HC
Bangladesh - Refugees	2021	12/07/2021 - 26/08/2021	3'683	95/10		Refugee
Burkina Faso	2021	14/06/2021 - 23/07/2021	5'032	90/10	Indicative only: Non-displaced in inaccessible areas; all IDP	IDP; Non-displaced
Central African Republic	2021	19/06/2021 - 26/08/2021	11'730	92/10	Accessible sub-prefectures only assessed; 92/10 not always achieved	Non-displaced; In-camp displaced; Out-of-camp displaced; Returnees/Repatriates
Colombia	2021	02/08/2021 - 10/09/2021	4,834 (removed 1 hh that was not in loop)	95/7	Indicative only: IDPs; 7 of 17 departments for HC (better not to aggregate pop groups and departmental results only for HC?)	IDP; HC
Democratic Republic of Congo	2021	10/06/2021 - 27/07/2021	3'136	95/10		IDP; HC; Returnee
Iraq	2021	09/06/2021 - 16/08/2021	12'089	Out-of-camp: 90/10; In-camp: 95/5	Indicative only: 4 camps (AAF, Qurato, Mamilian and Berseve 2)	In-camp IDPs; Out-of-camp IDPs; Returnees; HC
Kenya	2021	04/11/2021 - 15/11/2021	1'144	95/5		Refugee
Lebanon	2021	19/10/2021 - 19/11/2021	5'613	95/10	Indicative only: Migrants; PRL	Lebanese; Migrants; PRL
Libya - Libya population	2021	14/06/2021 - 31/07/2021	8'871	NA	Indicative only	IDP; Returnee; HC
Libya - Refugees	2021	14/06/2021 - 31/07/2021	1'554	NA	Indicative only	WCA; EA; MENA; SEA

Mali	2021	09/06/2021 - 16/07/2021	7'387	95/10	Indicative only: 17 cercles for HC; IDPs	IDP; Non-displaced
Niger	2021	14/06/2021 - 26/08/2021	12'656	95/10	Higher margin of error for some strata (up to 14%, but largely <11%)	IDP; Refugee; Returnee; Non-displaced
Nigeria	2021	02/08/2021 - 02/10/2021	9'448	NA	According to analysis tables, largely indicative?	IDP; Returnee; HC
Occupied Palestinian Territories	2021	04/07/2021 - 18/07/2021	7'514	95/9 (5 for refugee camps in WB)		Refugee; Non-refugee
Somalia	2021	13/05/2021 - 18/08/2021	11'349	NA	Indicative only	IDP; Non-displaced
Syria	2021	10/08/2021 - 20/09/2021	33'171	95/10		IPD in-camp; IDP out-of-camp; Returnee; Resident
Afghanistan	2022	30/07/2022 - 04/09/2022	17262	95/5 for population groups at national level; 90/9 urban/rural findings at provincial level; 90/7 refugee findings at provincial level		Vulnerable HH (HC); Refugee; Recent IDP; Non-recent IDP; Recent returnee
Burkina Faso	2022	06/06/2022 - 14/07/2022	5629	90/10 for non-displaced HHs in accessible areas / indicative for rest	[Accès] Accès physique limité dans les zones considérées comme inaccessibles à cause de la situation sécuritaire. De fait, les entretiens ont dû être réalisés par téléphone, ce qui augmente le risque de fatigue et d'erreur qui peuvent négativement affecter la qualité des données. [Sélection] De plus, il est possible que la réalisation d'entretiens par téléphone exclut de fait des ménages qui auraient potentiellement pu être sélectionnés pour cette évaluation: aucun membre du ménage n'a accès à un téléphone, zones où il n'y a pas de couverture réseau, difficultés à contacter des répondants potentiels sans être sur place, femmes sont sous-représentées, etc.	IDP; non-displaced

Central African Republic	2022	18/07/2022 - 16/09/2022	12328	92/10 at admin1 + pop group level (or at admin2 level)	L'unité de collecte et d'analyse utilisée pour l'évaluation des sous-préfectures accessibles est le ménage, défini en collaboration avec les différents partenaires concernés comme « l'ensemble des membres vivant sous le même toit qui dépendent financièrement d'un même revenu et partagent les mêmes repas ». Cela signifie que les personnes déplacées qui vivent de façon temporaire dans un ménage ne font pas partie du ménage hôte mais forment un ménage de PDI en famille d'accueil. Pour les sous-préfectures inaccessibles, l'unité de collecte et d'analyse est la localité. Certains quotas ciblés n'ont pas pu être atteints pour des raisons sécuritaires ou logistiques lors de la collecte de données ou suite au nettoyage de données. Cela signifie que le niveau ciblé de représentativité (92% d'intervalle de confiance et une marge d'erreur de maximum 10%) n'est pas toujours atteint au niveau sous-préfectoral indépendamment des groupes de population, au niveau préfectoral dépendamment des groupes de population et au niveau national par groupe de population.	IDP in-camp; IDP out-of-camp; Returnee; HC
Colombia	2022	16/05/2022 - 27/08/2022	5485	HC: 90/10 (Santander de Quilichao, Valle del Guamuez, Puerto Asis, Mocoa and El Tambo); 95/10 (Arauca, Cúcuta, Pasto, Riohacha, San Miguel); indicative for IDPs, refugees / migrants, returnees	In the study areas where the sample was not covered by type of population, the following is recommended: -Venezuelan refugee and migrant population: it is recommended to work with a minimum quota of 55 surveys per cluster. In the 2 municipalities where the sample was not reached, it is recommended that it be analyzed in aggregate with a conglomerate similar in characteristics -Colombian returnee population: Given that the quota (55 surveys) was met in only 1 cluster, it is recommended that this population be analyzed in aggregate for all clusters. -Internally displaced population: the sample was reached only in 3 municipalities (Santander Quilichao, Quibdó and Puerto Asis). For the rest of the municipalities an aggregate analysis is recommended. -Host population: The representative sample of 90%-10% was reached only in 5 municipalities: Mocoa, Puerto Asis, Valle del Guamuez, Santander Quilichao and El Tambo. The representative sample of 95%-10% was reached in 5 municipalities: Arauca, Cúcuta, Pasto, Riohacha, San Miguel. Please note that in these municipalities replacement samples had to be used to exclude areas inaccessible according to field partners. The exclusion zones applied are available upon request.	Internally Displaced Population (IDP) and Host Population in municipalities prioritized for the EHP/OCHA. Population of Colombian returnees and Venezuelan migrant and refugee population in urban areas prioritized by GIFMM.

Democratic Republic of Congo	2022	06/06/2022 - 25/08/2022	9889	95/10 at admin 2 and population group level (and admin 3 irrespective of population groups)	Couverture partielle des enquêtes ménages : certaines zones ont été exclues de l'échantillonnage en raison de contraintes logistiques et/ou sécuritaires. Les résultats ne sont pas représentatifs pour ces zones. Sous-ensembles : les résultats faisant référence à un sous-ensemble de la population totale peuvent avoir une marge d'erreur plus grande et sont donc à interpréter avec précaution. Biais de réponse : certains indicateurs peuvent avoir été sous- ou sur-rapportés en fonction de la subjectivité et de la perception des personnes interrogées. Période de collecte : la collecte a globalement coïncidé avec la saison sèche où l'accès aux services de base peut être plus aisé que pendant la saison des pluies. Limite des enquêtes ménages : cette méthodologie ne permet pas d'obtenir des explications approfondies sur des thématiques complexes et les dynamiques au sein des ménages ne peuvent être appréhendées.	IDP; HC; Returnee
Haiti	2022	12/06/2022 - 13/09/2022	3896	95/10 at department-level x rural/urban (ZMPAP) for general population - that is every non-displaced or non-repatriate HH OR every IDP or repatriate HH that was not registered by IOM/Haitian civil protection as such; 95/5 for repatriates (by period of arrival and department) - but with DTM; 95/5 for IDPs (by commune) - with DTM	Cette base de données comprend les données pour l'ensemble des départements d'Haiti à l'exception de l'Ouest pour les ménages en population générale (maybe an old copy and paste). Les données de dépenses de ménage sont à considérer comme représentatives au regard du nombre conséquent de réponses "Je ne sais pas" qui ont été rencontrées pendant la collecte de données. Les seuils utilisés pour le calcul du Score de consommation alimentaire (FCS) sont les seuils alternatifs 28/42. En raison d'un problème avec l'outil de collecte de données, trois indicateurs ont été retirés du jeu de données : - Combien de filles dans le ménage (< 18 ans) sont mariés ou mis en concubinage ? - Combien de garçons dans le ménage (< 18 ans) sont mariés ou mis en concubinage ? - Combien de déplacements/trajets de nuit de plus de 10 km avez-vous effectués au cours des 3 derniers mois ?	Rural; urban

Iraq	2022	05/06/2022 - 16/08/2022	12839	90/10 out-of-camp populations at district level; 95/10 in-camp population by camp	Indicative Data: All district-level data from unfinished samples should be regarded as indicative, which can be seen in the Coverage sheet. Data and analysis for these samples are not aligned with their intended statistical representativeness. The non-saturation of such samples is due to operational impediments or inaccurate population figures. (some districts with very low sample size - governorate 84+) Critical shelter: Data for critical shelter indicators at national-level is higher than among population groups living out-of-camp, given that in-camp shelter is automatically designated as critical. When searching for critical shelter figures for out-of-camp populations, kindly refer to the disaggregated figures at the level of analysis of your choice.	In-camp IDP; Out-of-camp IDP; Returnee; HC
Kenya	2022	12/10/2022 - 21/10/2022	2901	95/5 at camp level		NA
Lebanon	2022	28/07/2022 - 26/11/2022	5659	LBN 95/10 at district level; Migrants 95/10 at governorate level; PRL 95/10 at camp level	> For Lebanese households, no data was collection in Nabatieh district, hence perspectives and experiences from HHs in this district are not included in these findings. > As sampling took place on a household level, all individual level findings should be considered indicative only. Also to note that individual household member information has not been reported by this individual directly, but by the household representative who was the respondent for the interview. > During data collection, high-income areas had a disproportionaly high non-response rate. This might have an impact on the MSNA results, through a potential over-representation of low and medium-income HHs in certain areas.	Lebanese; Migrants; PRL
Libya - Libya population	2022	04/07/2022 - 04/10/2022	3757	95/10 at baladia and population group level	NA	IDP; Returnee; HC
Moldavia	2022	16/05/2022 - 31/05/2022	664	95/10 for refugees in RACs; indicative for refugees in HC	The assessment will aim to achieve a minimum 95% confidence level and 10% margin of level for quantitative findings at admin 2 level. Due to lack of availability of primary data regarding the location of Ukrainian refugees in host community, findings for these strata are indicative only.	Refugees inside and outisde RACs

Myanmar	2022	13/07/2022 - 14/08/2022	6343	Most likely indicative	Issue with weights for IDP, set to 1. Should not aggregate across pop group? Non-probability quota sampling was used for the OVP and NDSP population groups across townships in respectively each of all the 18 states, regions and sub-regions for the OVPs and in Rakhine state for the NDSPs. The target sample sizes in each township were designed based on datasets providing population estimates across each township for each population group. For the IDP population group, surveys were collected through in-person partners (stratified random sampling) and through remote partners (non-probability quota sampling).	IDP; Non-displaced stateless; Other vulnerable
Niger	2022	20/06/2022 - 10/08/2022	9212	95/10 at the level of population groups and departments (arrondissements in Niamey city)	Accès : Pour les départements comportant plusieurs communes non accessibles, la représentativité à l'échelle départementale se retrouve altérée, l'ensemble du territoire n'ayant pu être enquêté. Représentativité : Les données selon l'échantillonnage sont représentatives au niveau du ménage, désagrégées par statut de déplacement et département. Dans les onglets "Nationale", "Régionale" et "Départementale" : les indicateurs au niveau du ménage sont représentatifs, les indicateurs au niveau individuel sont indicatifs. Les données présentées dans les autres onglets de cette base d'analyse sont uniquement indicatives, et ne peuvent pas être interprétées comme représentatives de la population globale.	IDP; Refugee; Returnee; Non-displaced
Occupied Palestinian Territories	2022	30/05/2022 - 06/07/2022	8331	95/9 at strata level (localities and camps in Gaza strip, EJ, Oslo Areas in WB, H2)		In-camp refugee; out-of-camp refugee; non-refugee
Somalia	2022	19/07/2022 - 20/08/2022	13720	indicative	The sampling frame and coverage were designed based on accessibility and the location of population groups from previous assessments which leans more towards 1) urban and peri urban areas; and 2) areas where there is less active conflict/ armed actors. Data collection occurred during the Hagaa dry season and may not reflect conditions during other seasons in Somalia. This could be particularly relevant to responses regarding shocks, food security, displacement, expenditures, debt and livelihoods.	IDP; HC

					As the assessment is designed as a household level survey, limited individual-level data was collected which impairs capacity to conduct gender/age disaggregated analysis.	
Syria	2022	13/07/2022 - 18/08/2022	34129	95/10 at district level		IPD in-camp; IDP out-of-camp; Returnee; Resident
Ukraine	2022	10/10/2022 - 21/12/2022	13449	95/5 for CAA and GCA, and 95/7 in 'Rest of GCA' (not affected by conflict) - probably at raion level		NA
Bangladesh	2023	27/08/2023 - 12/09/2023	4620	Confidence Level: 90% for Nondisplaced HHs. Margin of Error: 10% for Nondisplaced HHs.		Refugees in camps; Host communities
Burkina Faso	2023	05/06/2023 - 14/07/2023	6806	Confidence Level: 90% for Nondisplaced HHs. Margin of Error: 10% for Nondisplaced HHs.		Non-displaced HHs; IDPs
Central African Republic	2023	20/06/2023 - 11/08/2023	13080	Confidence Level: 92% for all groups. Margin of Error: 10% for al goups.		Non-displaced population (host); Displaced population at sites or meeting points; Displaced persons with host families; Returnees and repatriated population

Democratic Republic of Congo	2023	30/05/2023 - 23/07/2023	44684	Confidence Level: 95%. Margin of Error: 1.5% to 7.5%.		IDPs; in-camp and out-of-camp refugees
Haiti	2023	14/06/2023 - 31/07/2023	4536	Confidence Level: 90% [P-au-P]; 95% [Rest of country]. Margin of Error: 10% for all.		Port-au-Prince (PAP); Rest of Country
Iraq	2023	16/07/2023 - 15/09/2023	11767	Confidence Level: 95% [IDPs incamp]; 90% [others]. Margin of Error: 10% for all.		IDPs in-camp; IDPs out-of-camp; Returnees
Kenya	2023	18/ 05/2023 - 4/06/2023	4681	Confidence Level: 95% for all. Margin of Error: 7% for all.		Host communities; Refugees in host communities; IDPs in host communities
Lebanon - Lebanese	2023	21/07/2023 - 29/09/2023	7839	Confidence Level: 95% [PRL and Lebanese]; 90% [Migrants]. Margin of Error: 10% [Migrants and Lebanese; 9% PRL]		Palestine Refugees from Lebanon (PRL) in camp; Live-out migrants; Nondisplaced Lebanese
Lebanon - Migrants	2023	21/07/2023 - 29/09/2023	7839	Confidence Level: 95% [PRL and Lebanese]; 90% [Migrants]. Margin of Error: 10% [Migrants and Lebanese; 9% PRL]		Palestine Refugees from Lebanon (PRL) in camp; Live-out migrants; Nondisplaced Lebanese
Mali	2023	10/07/2023 - 31/08/2023	10838	Confidence Level: 95%. Margin of Error: 10%.		IDPs and; Non-displaced.

Myanmar	2023	05/06/2023 - 07/07/2023	9943	Confidence Level: 95% (except Other crisis affected people).. Margin of Error: 7% (except Other crisis affected people).		IDPs; IDP-returnees; Other crisis affected people; Non-displaced stateless population
Niger	2023	12/06/2023 - 31/08/2023	16370	Confidence Level: 95%. Margin of Error: 10%.		Non-displaced population; IDPs; Refugees; Returnees
Somalia	2023	11/06/2023 - 03/08/2023	12279	Confidence Level: 95%. Margin of Error: 10%.		Non-displaced Households; Protracted IDP Households; New IDP Households.
Syria	2023				Available upon request	
Ukraine	2023	19/06/2023 - 31/07/2023	15288	Confidence Level: 95%. Margin of Error: 7%.		Out of sites; IDPs in collective sites .

ANNEX 3: Machine learning and logistic regression methodologies

Machine Learning Methodology Overview

The Machine Learning (ML) analysis used anomaly detection, common in cancer detection, to predict which households in the sample reported having children potentially requiring FTR. The analysis began with a comprehensive examination of the original dataset, filtered for those households with children that responded to the questions on child separation. The dataset contained a pronounced imbalance between "normal" cases – households without FTR needs (259,902 records) and "anomalies" – households with FTR needs (798 records). Anomaly detection is suitable to analyze such imbalanced data. In line with ML standards, the data was split into training, validation, and test sets, each containing both normal and anomalous records (except the training set, which comprised only normal cases).

Data cleaning followed, targeting columns with excessive missing values (>20%) or zero variance. This step ensured the exclusion of irrelevant or noisy features while retaining those likely to contribute meaningful signals about potential anomalies. As a result, the cleaned dataset contained variables on the number of children, number of adults, single caregiver status, sex of the head of household, child-adult ratio, water source type, shelter type, FCS category, HHS category, and displacement status.

To treat the remaining missingness, K-Nearest Neighbors (KNN) imputation was then used across the training, validation, and test sets. Unlike simple mean or median imputation, KNN locates patterns by comparing the feature vectors of similar instances, thus preserving more subtle relationships in the data. This approach was critical for retaining maximum information, especially given the scarcity of anomaly samples. The dataset was then further treated through feature engineering, including the creation of interaction terms and log transformations. Furthermore, values were standardized. Next, feature selection systematically reduced highly correlated predictors to avoid multicollinearity.

The model training phase employed three specialized anomaly detection algorithms: One-Class SVM, Isolation Forest, and a *stacked model* approach that combined multiple learner outputs. Hyperparameter optimization was conducted using RandomizedSearchCV and HalvingRandomSearchCV, both of which judiciously explore and prune parameter sets under given resource constraints. These methods improved the efficiency of finding optimal model configurations, especially in an environment with many features and few anomalies. Finally, the trained models were evaluated on the validation set to determine the best performers, which were then tested on an unseen test set.

Logistic regression Methodology Overview

The econometric analysis employed logistic regression to model two distinct outcomes: (1) the likelihood of households needing Family Tracing and Reunification (FTR) services; and (2) the likelihood of households hosting unaccompanied and separated children (UASC). For the FTR analysis, the dependent variable was a binary indicator (1 if the household potentially needed FTR, 0 otherwise). For the UASC analysis, the dependent variable was also a binary indicator (1 if the household was hosting a UASC, 0 otherwise). Independent variables for both models included indicators for displacement status (IDP and refugee, using dummy variables), household characteristics (female head of household, single caregiver, child-adult ratio), and socioeconomic indicators (Household Hunger Scale (HHS), Reduced Coping Strategy Index (RCSI), shelter type and water source). Additionally, in a different specification the model incorporated as control the number of conflict fatalities in the previous 3, 6, and 12 months, as recorded by the Armed Conflict Location & Event Data Project (ACLED), at the admin 2 level. For this last specification of the model only data from 2023 was used.

To address potential confounding effects and enhance the comparability of results across different contexts and population groups, the logistic regression model included fixed effects at the survey level (country-year combination). These fixed effects control for unobserved time-invariant country-specific and year-specific factors that might otherwise bias the estimates. Specifically, these fixed effects account for: (a) unobserved time-invariant country-specific factors; (b) unobserved time-invariant year-specific factors; and (c) potential selection bias introduced by variations in sampling

methodologies across different MSNAs. This approach improves the accuracy and reliability of comparing FTR needs across different population groups by isolating the impact of the independent variables from any methodological artifacts.

Robust standard errors were used to account for potential heteroscedasticity and clustering within MSNAs. Model selection was based on a combination of statistical significance (p-values), theoretical relevance, and predictive performance (evaluated using measures like pseudo-R-squared). The final model's coefficients, odds ratios, and other relevant statistics are presented in Annex 5. The script for this analysis is available upon request.

ANNEX 4

Context	Year	Indicator	Level of interview	Question(s)	Type of question	Options
BGD - HC	2021	Hosting separated children	Individual level	(1) **separated_children**: You reported ${children_count} children under the age of 18 in your household. Are any of these children not the biological children of anyone in the household? If yes, how many? (2) **separated_reason**: What is the reason they are staying with your household?	(1) Integer (2) select_one **separated_reason**	(1) Integer (2) separated marriage employment violence other dont_know
BGD - R	2021	Hosting separated children	Individual level	(1) **separated_children**: You reported ${children_count} children under the age of 18 in your household. Are any of these children not the biological children of anyone in the household? If yes, how many? (2) **separated_reason**: What is the reason they are staying with your household?	(1) Integer (2) select_one **separated_reason**	(1) Integer (2) separated marriage employment violence other dont_know
CAR	2021	Hosting separated children	Household level	(1) **ig_18**: Au sein de votre ménage, est-ce qu'il y a au moins un mineur (moins de 18 ans) séparé ou non accompagné ?	(1) select_one **oui_non**	(1) oui non nsp
COL	2021	Hosting separated children	Household level	(1) **extranje**: ¿Hay personas desplazadas siendo alojadas actualmente en su vivienda, las cuales no viven aquí normalmente? (2) **extramen**: Entre las personas desplazadas viviendo en su casa/alojamiento actualmente, las cuales habitualmente no viven aquí ¿hay al menos un menor de edad no acompañado?	(1) select_one **si_no_nr_ns** (2) select_one **si_no_nr_ns**	(1) si no ns nr (2) si no ns nr
KEN	2021	Hosting separated children	Household level	(1) **special_needs**: How many of the following persons with special needs are in the household currently? (2) **unaccompanied_girls**: Unaccompanied or separated girls (3) **unaccompanied_boys**: Unaccompanied or separated boy	(1) note (2) integer (3) integer	(1) None (2) integer (3) integer
NER	2021	Hosting separated children	Household level	(1) **enfants_separes**: Est-ce que votre ménage accueille en plus des enfants qui ont été séparés de leur parents ?	(1) select_one **oui_non_sr_nsp**	(1) oui non sans_reponse nsp

NGA NE	2021	Hosting separated children	Individual level	(1) **vulnerability**: ## Does ${name_member} fit any of the following criteria or situations? (2) **child_separated_from_parent_yn**: Child separated from parents or usual guardian [only household members aged 0-17 years (3) **child_separated_from_fami_yn**: Child separated from family, both immediate and extended [only household members aged 0-17 years]	(1) begin_group (2) select_one **ynnrdk** (3) select_one **ynnrdk**	(1)None (2) yes no noresponse dontknow (3) yes no noresponse dontknow
CAR	2022	Hosting separated children	Household level	(1) **ig_18**: Au sein de votre ménage, est-ce qu'il y a au moins un mineur (moins de 18 ans) séparé ou non accompagné ?	(1) select_one **oui_non**	(1) oui non nsp
HTI	2022	Hosting separated children	Household level	(1) **d_7_menage_accueil_enfant_orhpelins**: Votre ménage accueille-t-il actuellement des enfants qui ont été séparés de leur parent tels que des enfants orphelins, séparés de leur parent ou des mineurs non accompagnés ?	(1) select_one **l_oui_non_nsp_pnpr**	(1) oui non nsp pnpr
NER	2022	Hosting separated children	Household level	(1) **enfants_separes**: Est-ce que votre ménage accueille en plus des enfants qui ont été séparés de leur parents ?	(1) select_one **oui_non_sr_nsp**	(1) oui non sans_reponse nsp
UKR	2022	Hosting separated children	Individual level	(1) **A_21_hh_member_vulnerability**: A_21 Ask every household member. Does this member have any of the following characteristics?	(1) select_multiple **hh_member_vulnerability_opt**	(1) person_with_disability_registered person_with_disability_not_registered pregnant_and_lactating_woman pregnant_and_lactating_girl_18 **separated_and_orphaned_children** female_single_parent male_single_parent members_of_minority_groups_eg_roma_lgbtiq chronic_illness_and_serious_medical_conditions_which_affect_quality_of_life_including_mental_illness other none dont_know prefer_not_to_answer

HTI - PAP	2023	Hosting separated children	Household level	(1) **depl_menage_accueil_enfant_orhpelins**: Votre ménage accueille-t-il actuellement des enfants qui ont été séparés de leur parent tels que des enfants orphelins, séparés de leur parent ou des mineurs non accompagnés ?	(1) select_one **yes_no_dk_pr**	(1) yes no nsp pnpr
HTI - Admin1	2023	Hosting separated children	Household level	(1) **depl_menage_accueil_enfant_orhpelins**: Votre ménage accueille-t-il actuellement des enfants qui ont été séparés de leur parent tels que des enfants orphelins, séparés de leur parent ou des mineurs non accompagnés ?	(1) select_one **yes_no_dk_pr**	(1) yes no nsp pnpr
NER	2023	Hosting separated children	Household level	(1) **c_enfant_separe**: QB4. Est-ce que votre ménage accueille en plus des enfants (moins de 18 ans) qui ont été séparés de leur parents ?	(1) select_one **oui_non_nsp_pnpr**	(1) oui non nsp pnpr

ANNEX 5: Machine learning and logistic regressions' main results

Logistic regressions[20] -main results

VARIABLES	Household potentially requiring FTR	Household potentially requiring FTR	Household hosting UASC
Displacemen status = IDP (dummy)	0.719***	1.555**	-0.0813
	(0.272)	(0.681)	(0.0708)
Displacemen status = refugee (dummy)	1.283***		-0.424***
	(0.399)		(0.117)
Female head of household (dummy)	0.0230	0.0836	0.604***
	(0.233)	(0.260)	(0.0817)
Child-adult ratio (ln)	0.201	-0.217	
	(0.149)	(0.153)	
Single caregiver (dummy)	0.0176	0.235	0.135
	(0.328)	(0.386)	(0.152)
FCS	-0.00552	-0.00198	0.00127
	(0.00664)	(0.00759)	(0.00150)
HHS	-0.00451	0.0574	0.0852***
	(0.0609)	(0.0902)	(0.0283)
rCSI	0.0279***	0.0268***	0.0150***
	(0.00701)	(0.00820)	(0.00345)
Water source = surface water (dummy)	-0.473	-0.818**	0.109
	(0.408)	(0.349)	(0.136)
Water source = unimproved (dummy)	-0.331	-0.585***	-0.0735
	(0.225)	(0.219)	(0.0758)
Shelter type = inadequate (dummy)	0.229	0.360*	0.168
	(0.205)	(0.214)	(0.104)
Shelter type = no shelter (dummy)	-0.595		1.481***
	(1.045)		(0.226)
Age of the head of household	0.0260***	0.0323***	0.0321***
	(0.00581)	(0.00537)	(0.00230)
Fatalities - 3 months (ACLED)		-0.00639	
		(0.00475)	
Fatalities - 6 months (ACLED)		-0.00903***	
		(0.00329)	
Fatalities - 12 months (ACLED)		0.00522***	
		(0.00178)	
Constant	-7.734***	-10.14***	-7.180***
	(1.081)	(1.586)	(0.348)
MSNA Fixed Effects (country & year)	Yes	Yes	Yes
Observations	149,852	47,474	61,939
Pseudo R-square	5.9%	8.4%	6.4%
Subsample	Only households with children – either living outside or in the household		
Years	2021-2023	Only 2023	2021-2023

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

[20] Selected models based on overall level of prediction – R-squared. Script available upon request.

Machine learning

Results

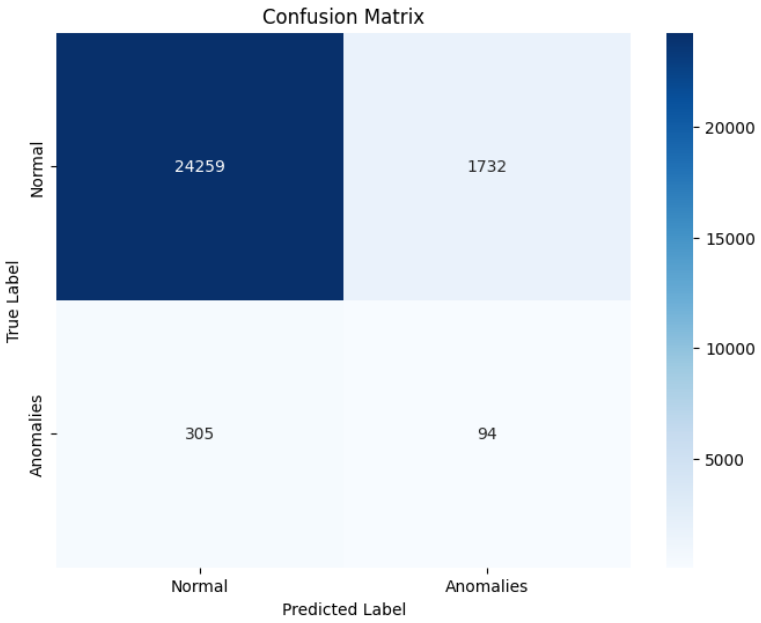
In the data, anomalies (households with children potentially requiring FTR) are very rare—only 1.47% of the data. The model has a precision of 5.05%, meaning it's right 5.05% of the time when it flags something as a household with children potentially requiring FTR. This is a **3.4x improvement** over random guessing. It also catches about 23.19% of all households with potential FTR needs, which is a **15.8x improvement** over random guessing.

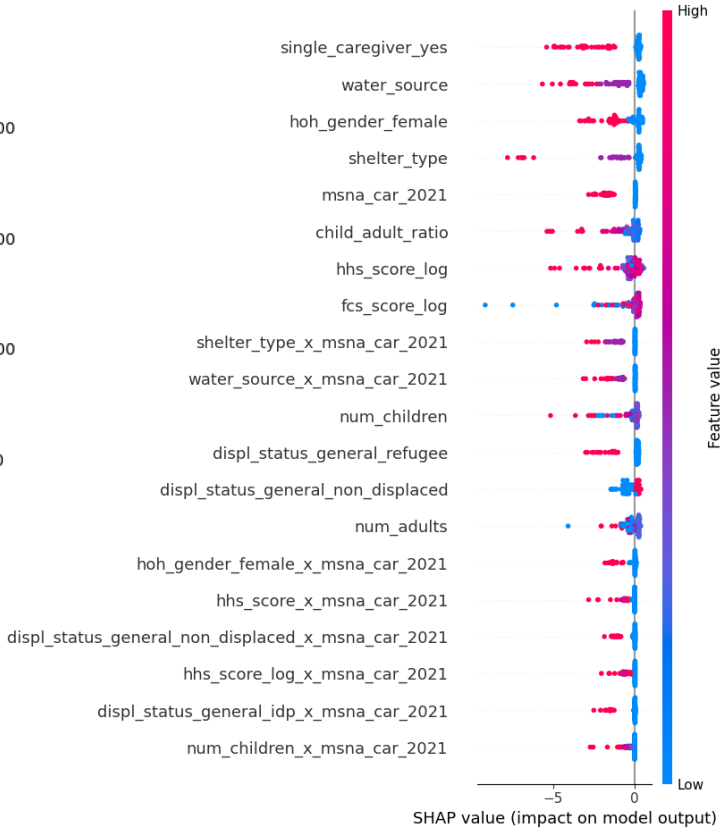
Based on the SHAP analysis, households that are led by **single caregiver** or a **female head of household**, and those who use **unimproved water source types** or have **no shelter** are more likely to have children outside that potentially require FTR. In addition, being a **refugee** generally pushes the model's prediction in the direction of "anomaly" – potential FTR needs. By contrast, **non-displaced** households generally exhibit SHAP values closer to zero or on the positive side, suggesting a tilt toward the "normal" class – potentially no FTR needs. Put another way, **being non-displaced reduces the model's prediction of child separation compared to refugee households**. These results are consistent with the idea that displacement factors—like refugee status—often coincide with greater vulnerability, which the model interprets as an elevated risk for children and caregivers becoming separated.

While the model can help identify factors that increase risks for child separation, there is still much room for improvement, especially in reducing the number of missed anomalies and lowering the rate of false alarms.

Prediction accuracy and robustness of results will likely improve with:

- Larger sample sizes, i.e. more households with separated children;
- Improved data quality of existing MSNA variables, therefore less exclusion of variables and imputation of missing values;
- Additional community-level variables related to the household's context and external shocks/threats.





ANNEX 6

Percentage of households with at least one child living outside, of households potentially requiring FTR and the proportion of households that might require FTR amongst households with children living outside across MSNAs

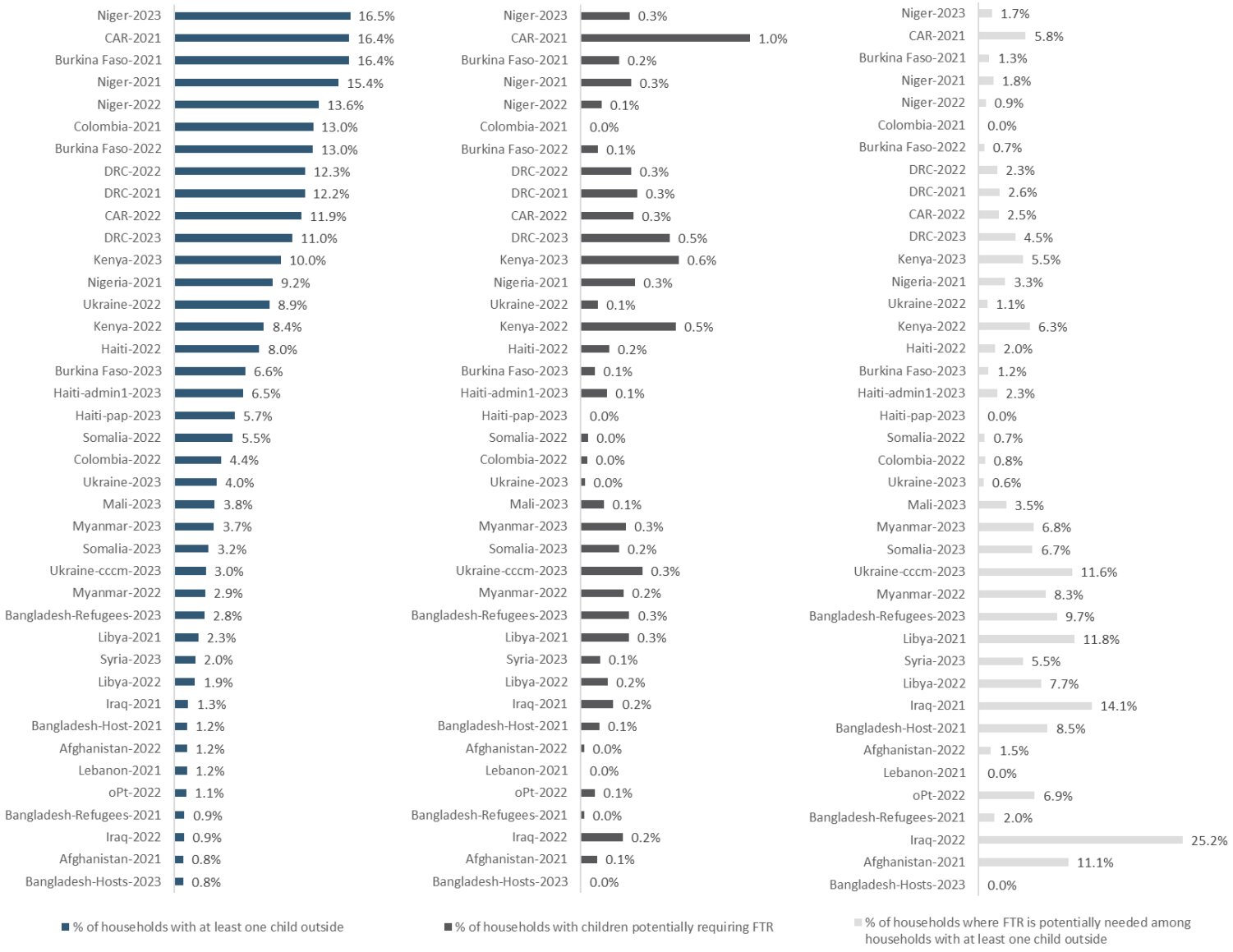


Figure A.1: This figure displays the percentage of households with at least one child living outside their household (first graph), the percentage potentially requiring FTR amongst all households (second graph) and the proportion of households potentially requiring FTR amongst households with children living outside (third graph), across all MSNAs. The percentage of households potentially requiring FTR amongst all the households (second graph) refers to those households that had at least one child living outside for reasons such as joining armed forces or missing, that are likely to require FTR services. This represents a subset of all the households with at least one child living outside (first graph). The percentage of households where FTR is potentially needed amongst households with at least one child living outside shows how many households have at least one child living outside for reasons that are likely to require FTR services as a proportion of the total number of households that have at least one child living outside for any reason (i.e., graph 3 displays the ratio between graph 2 and graph 1). "Haiti-pap-2023" makes reference to the MSNA that took place in Port-au-Prince Metropolitan Zone (ZMPAP, for its French acronym); "Haiti-admin1" refers to the MSNA conducted in the other areas of Haiti out of ZMPAP; "Bangladesh-Host" refers to the MSNA that took place in host communities in Cox-Bazar; "Bangladesh-Refugees" refers to the MSNA that took place in refugee camps; finally "Ukraine CCCM" refers to the MSNA that was conducted in displacement camps within Ukraine ".