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## INTRODUCTION

As of February 2023, **2,200,679** individuals were internally displaced in the BAY (Borno, Adamawa and Yobe) states of the north-east region, and **2.17** million individuals returned to their locations of origin. The unpredictability of the security crisis in Borno, Adamawa and Yobe (BAY) states has left for fluid mobility in these areas. This, coupled with the closure of major camps in Maiduguri Metropolitan Council, Jere and Konduga local government areas (LGAs) of Borno State Many IDPs who resided in these camps have now integrated in host communities where they were displaced, some have reintegrated in their LGAs of origin and others have moved to different LGAs for resettlement.

To help find durable solutions for internal displacement — whether through return to communities of origin, local integration, or relocation — and to prevent new displacements in the region, it is critical to understand the relative levels of stability in locations hosting returnees or displaced populations. IOM launched the Stability Index (SI) in 2019 to evaluate the stability of areas hosting returnees or displaced populations in Nigeria. The SI seeks to understand which factors influence a location's stability to identify priority interventions for transition and recovery, with the goal of strengthening the resilience and stability in this conflict and displacement-affected region. The Stability Index measures perceptions of stability and analyzes which factors have relatively larger impact on the decisions of populations to remain in place or to move. The tool is implemented in the BAY states to enable governmental authorities and partners to develop better strategies, and to prioritize resources in that link humanitarian, recovery, and stabilization approaches.

This report presents results from data collection of Stability Index Round 3 conducted in Nigeria's BAY states (Borno, Adamawa and Yobe) between December 2022 and January 2023.

## 1. METHODOLOGY

The Stability Index combines 35 key indicators of stability to estimate a single stability score for each studied locality. These indicators cover three essential themes for stability: safety and security, livelihoods and basic services, and social cohesion. The indicators for each of these themes are grouped to create subscores to facilitate the comparison of localities by theme. (See the appendix for more information on the indicators included in this analysis).

Taken together, these indicators highlight areas conducive to sustainable solutions for internal displacement. Three "anchor questions" on the perception of stability in the community (sense of stability, community's future intentions, trends in the situation) are used to validate the relations between the stability score and the community's perception. To estimate the stability score of a locality, the Stability Index uses logistic regression analysis that compares the 35 key stability indicators with the responses to the three perception questions. By using logistic regression, the relationship between these variables is estimated, and the probability (ranging from 0 to 100) of stability in localities can be generated. This helps to better understand the areas that require sustainable solutions to improve stability and security in internal displacement

Table 1. BAY states displacement figures as of February 2023



**1,887,995** Returnees (former IDPs)

72 222,044 Returnees (from abroad)

## 1.1 Data collection overview

The Stability Index uses data collected through 387 key informant interviews at the locality level in **670 displacement affected locations** in north-east Nigeria. Locations for data collection were selected through a mapping exercise to identify areas where IDPs and returnees are located. (See Appendix for further information.)

Multiple key informants were interviewed in each locality, allowing IOM to cross-validate information. Key informants include community leaders, aid workers, and other community representatives. The key informant method has the advantage of rapidly collecting information from many localities. However, it is an estimate representation of the views of an entire community, hence the results of the SI provide community level information. Moreover, the results of the SI represent a snapshot of the conditions at a specific period and thus may vary between rounds or change suddenly.

Figure 1. Number of localities surveyed per round

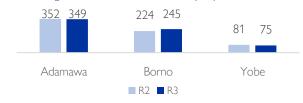


Table 2. Number of locations assessed by state

ADAMAWA	16 LGAs	349 LOCATIONS	
BORNO	18 LGAs	246 LOCATIONS	
YOBE	7 LGAs	75 LOCATIONS	

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## 2. KEY FINDINGS

Stability Index aims to inform programmatic interventions that can improve stability at the locality and to facilitate durable reintegration of displaced populations in their communities of origin and to prevent future forced displacements. The governments (at national, state and LGA levels) of Nigeria and their partners should work closely together to identify localities—and develop tailored programmatic interventions to increase the stability based on the results of the different stability indicators, and particularly with the most influential variables.



## Security varies across the state

The level of security varies among the three states. In general, the localities assessed in the states of Adamawa have a higher security score than the states of Yobe and Borno. The localities in Adamawa have better security situation, freedom of movement, less informal curfew, and residents are less worried about security. Bayo and Hong LGA in the state of Adamawa emerged with the highest security scores of 100 and 95 respectively, in contrast to Gubio LGA in the state of Borno which had the lowest security score (48), especially in the localities of Ajari (30), Busamari (40), and Bulakareya (40).



### Strong association between security and feelings of stability, and the intention to leave

Higher levels of perceived security are generally associated with feelings of stability and intentions to stay, as opposed to lower levels of perceived security, which correlate with feelings of instability, intentions to leave, and a lack of optimism .



## Most of the resident in the localities are feeling stable

Seventy-six per cent of the localities reported a combination of stability, stay and optimistic. The state of Adamawa has the highest percent of localities (88%) where the residents are stable, they are not planning to leave and are optimistic in their current situation. While 15 per cent who are stable, stay but not optimistic.



## The stability index varies highly in Yobe

In Yobe State, despite an average Stability Index score of 89, there is a noticeable variation in stability levels. This suggests that while the state as a whole maintains a high level of stability, specific areas or communities within the state of Yobe may experience fluctuating stability scores as Manyama, Mutai/Lawanti and Garin Itace.



### Dusuman Ward's High Scores in Social Cohesion, Security, and Services

The ward of Dusuman stands out with a perfect score for Social Cohesion, achieving the highest rating among all assessed wards. It also attains a near-maximum score for Security, with the exception of Musari, which scores 92 out of 100. In terms of Services, the ward of Dusuman maintains a solid average of 82

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## 3. OVERVIEW OF ROUND 3 NIGERIA STABILITY SCORES

## 3.1 Sub-index Scores by States

Security emerges as a notable strength across these states. Adamawa leads with an average security score of 82, followed by Yobe at 76, and Borno at 73. Collectively, the states have an average score of 78. The LGA of Hong stands out as the LGA with the highest security score, with a value of 95

The access to services show the state of Adamawa generally demonstrates better service, with an average and median score of 77. Borno lags behind with an average score of 63, indicating challenges in access to service. Yobe falls in between, with average score of 64. The LGA of Geidam stands out as the LGA with the highest service score with a value of 94

Social cohesion is a shared strength in these sates, with average scores exceeding 82. Adamawa reports an average social cohesion score of 85, both for the average and median values, indicating a high degree of unity and social harmony within the localities in Adamawa State. In contrast, Borno reports an average score of 78 and a median of 83, showing a notable difference in social cohesion within Borno State.

Yobe, on the other hand, presents the lowest average social cohesion score among the three states, with an average score of 77.

Overall, social cohesion is a significant strength with high average and median scores. Security scores are also favourable. Services exhibit relatively consistent performance, with a minor difference between the average and median scores, indicating generally stable service provision across these states.

Table 3. Average and Median sub-scale scores for Nigeria

	Adamawa	Borno	Yobe	All
Security				
Average	82	73	76	78
Median	80	75	77	79
Services				
Average	77	63	64	70
Median	77	65	63	71
Social cohesion				
Average	85	78	77	82
Median	85	83	78	85
Stability Index				
Average	93	85	89	90
Median	95	89	97	94

The table 4 shows in unstable conditions, a minority choose to 'Leave,' with three locations being 'Not optimistic' (less than 1%) and nine locations being 'Optimistic' (1%). Meanwhile, 10 locations decide to 'Stay' under 'Not optimistic' circumstances (1%), and 25 locations maintain an 'Optimistic' outlook while choosing to 'Stay' (4%).

In more stable conditions, some opt to 'Leave,' with seven locations being 'Not optimistic' (1%) and four locations being 'Optimistic' (1%). However, the majority of stable locations show resilience, with 102 choosing to 'Stay' despite 'Not optimistic' feelings (15%), and an impressive 509 locations opting to 'Stay' while maintaining an 'Optimistic' perspective (76%).

This community's narrative reflects a diverse range of responses to stability and perception, highlighting the strength and resilience of its members across different locations.

Table 4. The Frequency of Locations for Each Combination of Responses to the Three Anchor Questions

Stability	Community Perception	Feeling of the situation	Number of locations	Percentage of locations
Unstable	Leave	Not optimistic	3	<1%
Unstable	Leave	Optimistic	9	1%
Unstable	Stay	Not optimistic	10	1%
Unstable	Stay	Optimistic	25	4%
Stable	Leave	Not optimistic	7	1%
Stable	Leave	Optimistic	4	1%
Stable	Stay	Not optimistic	102	15%
Stable	Stay	Optimistic	509	76%

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Interpreting the Stability Index: The Stability Index is a comparative measure, and scores can therefore only be interpreted in relation to other stability scores. This means that it is critical to look at the distribution of stability scores in an assessment to understand the relative position of a single score. For instance, in the calculations below for north-east Nigeria, the **median stability score** is **94**. The cut-off for the first quartile (lowest scoring 25 per cent of localities) is **88**, and the cut-off for the third quartile (highest scoring 25 per cent of localities) is **97**. Based on this distribution, localities with scores above 97 are classified as high stability, or more stable than 75 per cent of localities assessed in the region.

## 3.2 Stability Scores by State

In Nigeria, Borno State had the highest percentage of localities where stability scores did not exceed 25 per cent. That is, 44 per cent of the localities assessed in Borno recorded low stability scores of less than 25 per cent. This corresponds with Borno reporting conflict as the main reason for displacement. And 18 per cent of the localities assessed in Yobe State have low stability scores (not exceeding 25%).

Adamawa State had the lowest percentage of localities in the lower quartile, with 25 per cent of localities having average scores and 64 per cent having high scores which represent the highest in the region, followed by Yobe State with 53 per cent of localities having the highest percentage. When comparing overall stability scores, it is important to keep in mind that these scores only reflect the localities that were covered by the study. This suggests that Borno reports to be less stable in comparison to Adamawa and Yobe.

## 3.3 Sub-Index Scores in the BAY states

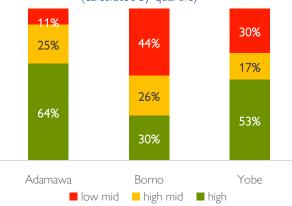
Regarding the feeling of stability, residents who feel stable in their locality have given high scores in terms of security, with 79 points, as well as in terms of services and cohesion, with 71 and 82 points respectively. This suggests that these individuals perceive a safe and harmonious environment, where essential services are provided satisfactorily.

On the other hand, individuals with a sense of instability in their locality have assigned slightly lower scores. Security is rated at 65, services at 52, and cohesion at 72. These results could indicate that these individuals feel a certain level of insecurity or lack of stability in their environment, which could potentially influence their perception of available services and social cohesion.

Another essential aspect is the ability to remain in the locality. Residents who feel capable of staying in their locality give high scores to security (78), services (70), and cohesion (82). On the other hand, individuals considering leaving their locality have given slightly lower scores in all areas, with a security rating of 60, services at 51, and cohesion at 56.

Finally, the evolution of the situation over the past six months was evaluated. Optimistic individuals about this evolution have given high scores for security (79), services (70), and cohesion (82). This indicates that they perceive an improvement or stability in these areas during the given period. Conversely, those who are not optimistic have assigned slightly lower scores, with security at 72, services at 67, and cohesion at 78.

Figure 2. Region-wide distribution of stability scores (calculated by quartile)



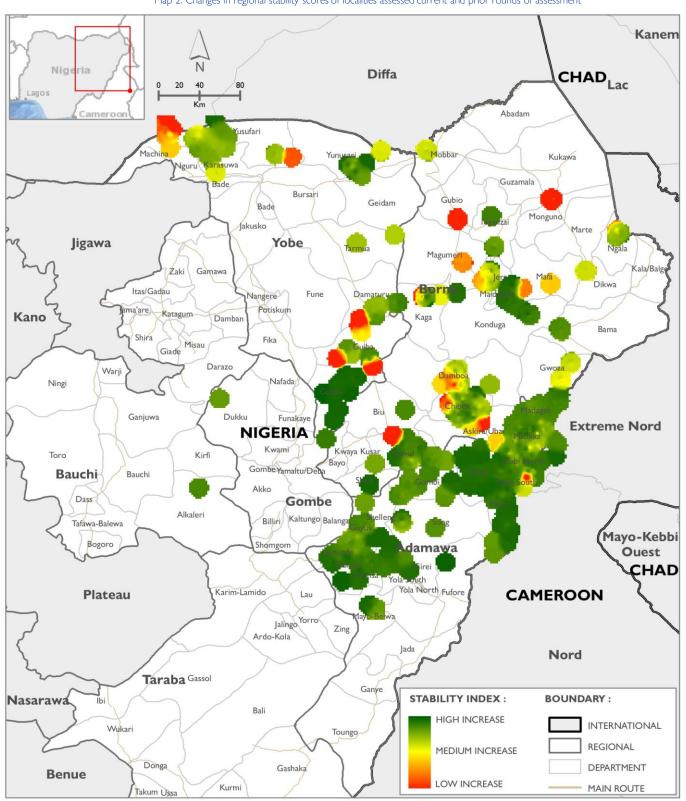
Categories were determined based on quartile. For instance, localities scoring in the "low" category were among lowest-scoring 25 per cent of localities surveyed in the region. "High" localities scored among the top 25 per cent of localities

Table 5. Average Scores of Sub-Indices Based on Perception Questions

	Security	Services	Cohesion	
Feeling of Stability				
Stable	79	71	82	
Instable	65	52	72	
Intention to leave				
Stay	78	70	82	
Leave	60	51	56	
Evolution of the situation over the past 6 months				
Optimistic	79	70	82	
Not Optimistic	72	67	78	

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Map 2. Changes in regional stability scores of localities assessed current and prior rounds of assessment



This map is for illustration purposes only. The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by IOM.

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## 4. ANALYSIS OF KEY INDICATORS INFLUENCING STABILITY AMONG

The stability index uses logistic regression to understand the impact of each indicator on the three perception questions. Indicators with the highest weight have the most influence on determining the stability score. Exploring these key indicators helps identify important factors that vary the most among different localities in the region and can thus impact stability

In this section, the top eight indicators with significant programmatic implications and that can be leveraged by the humanitarian community are presented. Additionally, there is a more in-depth analysis of five key stability variables and stability perception. This analysis provides insights into potential programs and policies to implement in the target communities

## 4.1 Top indicators

Figure 3. Top 8 key indicators of the stability index

LIVELIHOODS AND SERVICES SAFETY AND SOCIAL COHESION



Figure 3 presents the key indicators of the stability index. Overall, Livelihoods and Services, and Social Cohesion indicators appear to have the greatest influence on the locality's stability. In fact, among the eight most influential indicators, six of them are related to those indicators, namely: Fishing Situation (1st rank), Access to Basic Services for All Groups (2nd rank), Current Market Situation (4th rank), Public Sector Situation (6th rank), Primary School Situation (7th rank), and Identity Document Situation (8th rank).

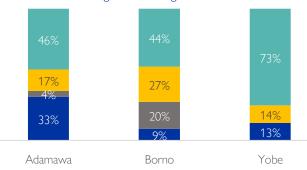
In contrast, two indicators of Safety and Security are among the top eight most influential indicators: Uniform Curfew (3rd rank) and the Resident Worried Security Indicator (5th rank).

## 4.2 Key Indicators with Programmatic Implications

## 1. Fishing situation

According to key informants, Yobe State is the state where most localities don't have fishing grounds to use, with a concern rate of 73 per cent. Adamawa State follows closely with a concern rate of 46 percent, where 4 per cent of localities don't have access to available fishing grounds, and 33 per cent of these localities in Adamawa have access to all available fishing grounds, which are being used by the community.

Figure 3. Fishing situation

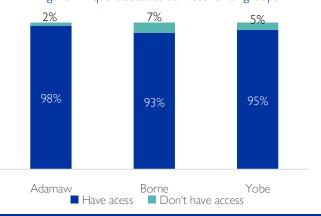


- There is no fishing ground to use in the locality
- Only some of the fishing ground is being accessible and being used by the community.
- None of the fishing ground is accessible
- All of the fishing ground is accessible and being used by the community.

## 2. Equal access to services for all groups

According to key informants, in most of the localities, the population from all groups has access to basic services. In the state of Adamawa, 98 per cent of the localities have access, followed by Yobe with 95 per cent, and Borno with the lowest at 93 per cent

Figure 4. Equal access to services for all groups



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### 3. Informal Curfew

According to key informants, Adamawa stands out for having the highest proportion of localities that are not subjected to an unofficial curfew, with 95 per cent of its localities free from such restrictions, Notably, of 16 local Government Areas (LGAs) in Adamawa, only four (Gombe, Hong, Madagali, and Mubi South) have curfews imposed by non-state actors. Mubi South appears as an exception within Adamawa, whereby approximately 48 percent of its localities have been subject to informal curfews. Yobe reports the second lowest percentage of localities without informal curfews, with 93 per cent of localities affected. Following closely is Borno, where 90 per cent of the localities lack informal curfews.

### 4. Market Situation

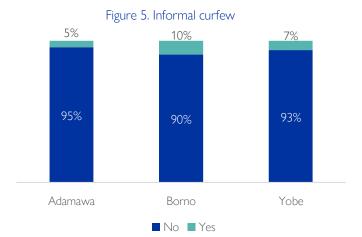
According to the key informant, in Adamawa, approximately 64 per cent of markets are open and consistently supplied, while 34 per cent are open but experience scarcity, and only 2 per cent remain closed. In Borno, there are 45 per cent of markets that are open and regularly supplied, 44 per cent are open but facing scarcity, and 11 per cent are closed. Yobe demonstrates the most favorable situation, with 71 per cent of markets open and adequately supplied, 17 per cent open but experiencing scarcity, and 12 per cent of localities where there are no local markets or small shops, or they are closed.

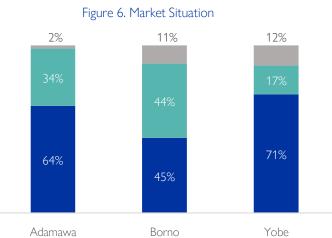
Overall, Yobe has the most thriving and stable markets, with Adamawa following closely, although some areas face scarcity challenges. Borno, on the other hand, encounters difficulties in maintaining a steady supply chain.

## 5. Are the Residents worried about Security

Yobe reports the highest percentage of localities where resident are feeling secure in 54 per cent of the localities. In 39 per cent of the localities, residents are somewhat worried, while in 7 per cent of the localities, residents express very high levels of concern. Notably, among the localities where residents are very worried in Yobe (7%), 80 per cent of them are located in the LGA of Gujba.

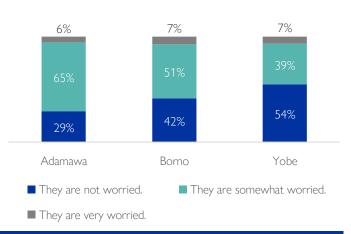
On the other hand, the state of Adamawa presents the state with the lowest percentage of localities where residents are not worried (29%), but it also has the highest percentage of localities where residents are somewhat worried (65%). Interestingly, it records the lowest percentage of localities where residents are very worried, at 6 per cent. This may be attributed to attacks by NSAGs but also other violent activities including vengeance, kidnapping, fighting between armed groups or security forces, conflicts over land and property or deliberate destruction of property, crime, etc.





- There are no local markets and small shops, or they are closed
- The local markets and small shops are open, but items are scarce.

Figure 7. Are the resident worried about security



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## 6. Public Sector Situation

According to key informant interviews, Yobe State had the highest percentage of locations with people working in the public sector that left the localities and have now returned (75%). In contrast, 17 per cent of the localities in Borno State (highest among the BAY states), recorded people working in the public sector had left and have not returned. And key informants noted that in 23 per cent of the locations in the most conflict affected state of Borno, people working in the public sector remained active during the conflict. This was closely followed by 20 per cent as reported by key informants in Adamawa State.

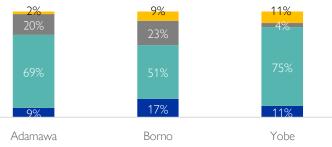
## 7. Primary School Situation

According to key informant interviews in 94 per cent of the locations in Adamawa State, the local primary school is open to use by pupils and is functional. Similarly, in Yobe State, key informants reported that in 84 per cent of the locations, the local primary school is open to use by pupils and is functional. In 11 per cent of the locations in Yobe State, the key informants reported that the local primary school is closed, or non-functional and children do not have access to any other school nearby. In Borno State, wihile key informants noted that 67 per cent of locations assessed have functional local primary schools, they also reported that 12 per cent of the locations have local primary schools that are closed, or non-functional but children have access to other schools in neighbouring locations.

## 8. Identity Document Situation

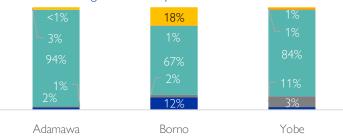
In Adamawa State, for 91 per cent of the locations, key informants stated that most residents have identity documents. In Borno State, key informants in 86 per cent of the locations reported the same. However, key informants reported that most residents have identity documents only in 56 per cent of the locations in Yobe State (the lowest amongst the BAY states). Consequently, in 44 per cent of the locations in Yobe State, key informants reported that most residents do not have identity documents. Of this 34 per cent, 28 per cent noted it would be easy for them to get some identity documents and 16 per cent noted it would be difficult for them to get some identity documents.

Figure 8. Public sector situation



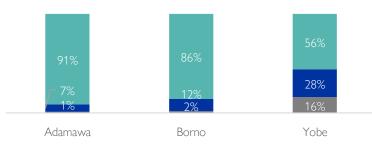
- $\blacksquare$  There have never been people working in the public sector in the locality
- People working in the public sector remained active during the conflict
- People working in the public sector left the locality and have returned
- People working in the public sector left the locality and have not returned

Figure 9. Primary school situation



- There has never been a primary school in the locality, but children can go to another accessible school in a neighbouring town or locality.
- There has never been a primary school in the locality and children cannot go to another accessible school in a neighbouring town or locality.
- The local primary school is open and functioning.
- The local primary school is closed, or non-functioning and children cannot go to another school nearby.
- The local primary school is closed or non-functioning, but children can go to another accessible school in a neighbouring town or locality.

Figure 10. Identity document situation



- Most residents have identity documents.
- Most residents do NOT have identity documents, but it would be easy for them to get
- Most residents do NOT have identity documents, and it would be difficult for them to get some.

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## 4.3 Analysis of Anchor Questions

The first section of the questionnaire focused on the key informants' perception of stability in the assessed localities. These "anchor questions" are not used in Stability Index calculations but are used instead to validate Stability Index findings against self-reported perceptions in the community. Key informants were asked three main questions to assess the sentiments in their communities. The following graphs compare responses among the states that were surveyed in Round 3 of assessments.

## Feeling of stability

## Does the locality feel safe or unsafe?

In 99 per cent of the locations assessed in Adamawa State, key informants reported that their locations feel safe. In contrast, the largest percentage of localities that reported feeling unsafe was 16 per cent in Borno State. This corresponds with Borno as the most affected State by non-state armed group attacks. In Yobe State, most of the key informants (95%) in the assessed locations reported that their locations feel safe, while 5 per cent reported their locations felt unsafe and unsafe. This general feeling of safety and stability in Adamawa State has allowed for favourable return and resettlement conditions of IDPs within the BAY states.

## Future intentions

## Do people in the locality feel that they need to leave soon due to safety concerns?

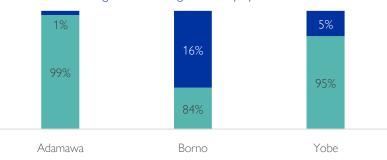
In the Yobe State, key informants in 8 per cent of the locations feel that people in their communities might need to leave their locality in the near future due to safety concerns. When comparing the feeling of stability described in the paragraph and chart above, there is clear correlation between the safety and stability of a location and the future intentions of its residents. However, this is not the case in the most conflict-affected state of Borno, where key informant interviewed in 4 per cent of the locations, reported that there is a feeling that they may need to leave their locality in the near future due to safety concerns.

## Changes in perception

## Do people feel more or less hopeful about the state of community compared to six months ago?

Out of the three states assessed in north-east Nigeria, the most conflict-affected state of Borno reported the largest proportion of localities that are less hopeful about the future with 26 per cent. And 21 per cent of localities are less hopeful about the future state of their communities compared to 6 months prior to data collection in Yobe State. Meanwhile, in Adamawa State, 88 per cent of key informants in the locations assessed are more hopeful about the state of the community in the future.

Figure 11. Feeling of stability by state



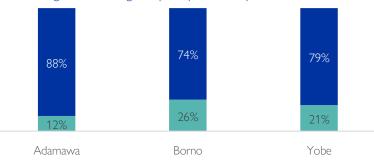
- The general feeling is that the locality is unstable and unsafe
- The general feeling is that the locality is stable and safe

Figure 12. Future intentions of the population



- People in the locality may need to leave soon
- People in the locality do not need to leave

Figure 13. Changes in perception over past six months



- I'm more hopeful about the state of our community than 6 months ago.
- I'm less hopeful about the state of our community than 6 months ago.

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## 5. CLUSTER ANALYSIS

## 5.1 Cluster Generation

Grouping similar localities into clusters can help to uncover the distinctive profiles of geographic regions in order to facilitate targeted programming. This analysis uses machine learning to group similar localities into clusters in order to draw out underlying patterns about the conditions in those areas. (See Appendix for details on cluster generation.) High stability clusters can help to pinpoint "pockets of stability" at a level slightly less granular than the individual locality to facilitate feasible programmatic interventions. The map below visualizes assessed localities located in Nigeria as divided into 4 clusters. Each colour represents a cluster of localities with similar sets of responses to the Stability Index survey. The accompanying table provides a breakdown of the average the Stability index and of sub-index scores for each of these clusters.

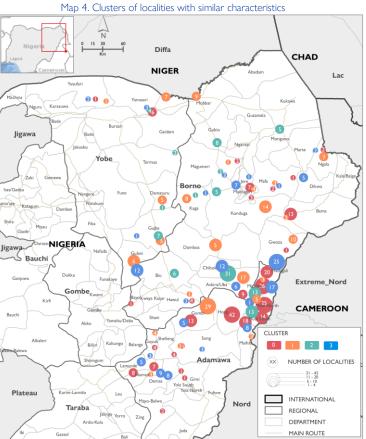
These clusters have been evaluated based on key factors, including Stability Score, Services Score, Security Score and Cohesion Social Score.

Cluster 0 stands out with the highest average scores in every sub-index, It demonstrates high stability (95), access to services (81), security (86), and notable social cohesion (92). With 250 localities,

Cluster 1 has a lower access to services, with a score of 56, compared to its scores in other sub-indices. It maintains stability (87), security (77), and social cohesion (89). Comprising 171 localities

Cluster 2, presents relatively lower scores in all sub-indices, particularly in social cohesion (55). It faces difficulties in stability (Stability: 75), access to services (59), and security (57). With 101 localities, this cluster indicates a need for efforts to strengthen social cohesion,

Cluster 3 shows a balance between stability (95) and security (80), with a relatively higher security score compared to access to services (76). While it performs well in these aspects, it falls slightly behind in social cohesion (73). With 147 localities, it represents regions where stability and security are high



This map is for illustration purposes only. The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by IOM.

Table 6. Average SI and sub-index scores by cluster

	Stability Index	Services Sub-Index	Security Sub-Index	Cohesion Sub-Index	Number of Localities
Cluster 0	95	81	86	92	250
Cluster 1	87	56	77	89	171
Cluster 2	75	59	57	55	101
Cluster 3	95	76	80	73	147



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## **APPENDIX I:** Methodology

## A. Selection of Localities

The selection of localities was as broad as possible in areas affected by displacement and/or returns in Nigeria. **670 displacement affected locations** were surveyed in North-East Nigeria, A list of localities to be surveyed was created based on data collected by IOM on displacement/returns and other existing data systems (census, administrative lists, etc.). The objective was to have a large enough number of localities at the country level to ensure a solid foundation for statistical analysis. A locality is the administrative level 4 (lowest possible level). The level has a representation, whether formal (State) or informal (Chef de village).

## B. Stability Index Calculation

The Stability Index calculation begins with survey design: this tool was developed with substantive input from community stabilization and HDPN experts. It includes a set questions assessing the conditions in a locality that were determined to be 1) potential indicators of stability and 2) possible to rank in terms of their stability implications. Questions were divided into four categories: anchor questions (perceptions about stability), safety and security, social cohesion, and access to basic services.

Before index calculation, responses were ranked ordinally from best to worst case scenario. For the calculation of the index, logistic regression was employed for each perception question. By consolidating the scores from each question, we obtain the overall stability index for each locality.

## C. Sub-Index Calculation

In addition to the stability score, three distinct sub-indices were generated using the variables from each of the three survey themes: Security, Social Cohesion, and Services. The sub-indices were calculated separately by taking the average of questions related to each theme and then scaling them between 0 and 100. The overall stability index is not an average of these three sub-indices. The sub-indices facilitate the identification of localities that may require specific attention in any of these sectors.

### D Logistic regression

Logistic regression is a statistical analysis technique commonly used to explore the relationships between a dependent binary variable (Y) and a set of independent or explanatory variables. It allows modeling the probability that the dependent variable 'Y' takes a certain value based on the values of the explanatory variables. Logistic regression can be used to analyze the impact of each explanatory variable on the dependent variable and to predict the values of the dependent variable based on the values of the explanatory variables.

In the context of the stability index, logistic regression is used to analyze the relationships between the explanatory variables (e.g., security indicators, social cohesion indicators, and basic services indicators) and the dependent variable (a specific perception question).

### E. Cluster Generation

To facilitate the analysis of groups of localities, **clusters** were created using the K-Means machine learning algorithm, where the K was determine by using the elbow methods. K-Means allows for the identification of groups of localities that are the most similar across all of the provided inputs..

## F. Limitations

Some localities that were not accessible during the data collection period were not assessed due to security or logistical reasons. This may have introduced bias as data points from some of the least secure locations were excluded from the analysis. This limits the generalizability of the Stability Index findings in extremely insecure localities.

It is important to note that the Stability Index is based on informants' perceptions of stability and reports of the conditions in their locality and does not claim to provide an objective measure of this complex topic. Key informants are not randomly selected and may have different opinions about the stability in their locality than some of their neighbors.

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## **APPENDIX II: Indicators**

## ANCHOR QUESTIONS: PERCEPTION OF STABILITY

These key indicators were used to measure the perception of stability in each locality. The key indicators where then tested against each of the thematic indicators below to identify the most influential thematic indicators on the perception of stability.

#### Feeling of Stability in the Locality

Does the locality feel safe and stable or unsafe and unstable?

#### Ability to Continue Living in Locality

Do people in the locality feel that they need to leave within the next six months?

#### Changes in Perception in the Last 6 Months

Do people feel more or less hopeful about the state of the community than they did six months ago?

## **SCALE 1: LIVELIHOOD & SERVICES**

#### Shelter Access and Quality

Proportion of the community that has access to shelter and conditions of shelter.

#### Damage to Homes

Level of damage to homes due to conflict, and whether reconstruction is underway.

## Primary Education

Access to primary education and availability of schools in the locality or in neighbouring towns

#### Health Center and Medical Care

Access to functioning health center in the locality or in neighboring town

#### Local Market

Whether markets are open regularly and supplied

### Electricity

Electricity access and reliability in the locality

#### Drinking Water

Drinking water access and availability in the locality.

## Farmland & Fishing Grounds

Extent of fishing grounds and farmland being used in the locality

### Presence of Public Sector Employees

Whether public sector employees are present and how they reacted to the conflict.

#### Internet and Communications Technology

Access and reliability of internet or phone services.

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## **APPENDIX III: Indicators**

### SCALE 2: SOCIAL COHESION

#### Illegal Occupation of House, Land and Property

Land, habitat or property occupied illegally (without authorization from family, neighbors, local authorities)

#### Robbery Personal Effects

Robbery of personal belongings reported in locality in the last 6 months

#### Cattle Theft Reported

Cattle theft reported in the locality in the last 6 months

#### Daily Public Life

Whether residents are able to carry out basic activities without worry (going to the market, letting children play outside, street vendors, etc.)

#### Community Support

Likelihood of cooperation between neighbors in case of problems (such as with the supply of water or food) in the locality

#### Community Tension

Incidents or clashes involving two groups (religious, ethnic, herders/farmers, displaced/returnee/host communities) in the locality

#### Equal Access to Services

Populations in the locality have equal access basic services and resources no matter their age, sex or group (ethnicity, clan, displacement status)

#### Identity Documents

Level of identity document possession or access in the locality

#### Participation in Public Affairs

Level of participation in local public and political life (civil society organizations, unions, committees, social gatherings, religious groups)

### SCALE 3: SAFETY AND SECURITY

#### Recent Security Incidents

Whether there have been serious security incidents in recent months

#### Security Incidents - Resources

Trends in the number of security incidents linked to resource tensions (cattle raiding, land conflict, etc.) over past three months.

### Security Incidents - Non-State Armed Groups

Trends in the number of security incidents linked to NSAG activities (kidnapping, terrorist attacks, raids, etc.) over past three months.

#### Petty Crime

Trends in the number of petty crimes (theft, pickpocketing, vandalism, public intoxication, etc.) over past three months.

#### Community Concerns About Security

How concerned residents feel about their security (kidnapping, crime, fighting between armed groups, etc.).

#### Police Presence

Presence of police/gendarmerie in the locality

#### Security Forces Presence

Presence of security forces in the locality

#### Non-State Armed Groups Presence

Presence of Non-State Armed Groups in the locality

## Freedom of Movement

Residents' freedom of movement (to markets, to their homes, to workplaces, to farms, etc.) in the locality

#### Formal Curfew

Formal curfew for security reasons enforced by State

#### Informal Curfew

Informal curfew enforced by Non-State Armed Groups

### State of Emergency

Whether the locality is under a state of emergency

### Legal Remedies

Whether residents have access to legal remedies to resolve disputes

## STABILITY INDEX — NIGERIA OVERVIEW ROUND 3 DECEMBER 2022 — JANUARY 2023





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## Fragility, Solution and Mobility working group, IOM

The Stability Index is part of a larger body of work developed by IOM country teams in Iraq, Somalia, the Lake Chad Basin, and elsewhere—that improve strategic planning and implementation of transition and recovery programs. The Fragility, Solutions, and Mobility working group is working to provide a series of technical and strategic guidance and tools, including drafting a methodological framework to allow for a malleable, context specific but standardized approach to measuring fragility in new and emerging operations. The goal is an IOM-led global minimum standard for data collection and responsible data management for measuring and understanding indicators of fragility and stability through the deployment of analytical models in displacement and conflict contexts.

IOM's Transition and Recovery Division (TRD) and the IOM Displacement Tracking Matrix (DTM)'s work in this space allows for new and unique approaches aimed at consolidating and packaging existing methods, to achieve stronger outcomes and to better scale programming in fragile contexts. This approach provides a foundation from which to adapt and contextualize data-based evidence for the support of strategic planning and implementation of transition and recovery programs. Grounded in the principles of responsible data management, appropriate evidence can identify core factors of fragility, solutions, and mobility at the community level, and help identify how these factors impact the overall condition of the physical location and local community, and how these evolve over time.

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