MSNA - Research Terms of Reference

Multi-Sector Needs Assessment

NGA2605

Nigeria

July 2026

1. Executive Summary

A. General information						
Country of intervention	Nigeria (North East, North West, and North Central regions)					
Type of Emergency	X	Natural disaster	X	Conflict	X	Protracted
Type of Crisis	□	Sudden onset	X	Slow onset	□	Other
Mandating Body/ Agency	*Nigeria International NGO Forum (NIF), Nigeria Federal Ministry of Humanitarian Affairs*					
IMPACT Project Code	*35 BMH*					
Overall Research Timeframe *(from research design to final outputs / M&E)*	01/06/2026 to 28/02/2027					
Research Timeframe ***Add planned deadlines***	1. Data Analysis Plan (DAP) sent for validation: 13/07/2026		7. LSG framework sent for validation: 25/10/2026			
	2. Pilot/training: 04/08/2026, 05/08/2026 & 10/08/2026		8. Preliminary presentation/Joint analysis workshop (JAW): 06/11/2026			
	3. Start data collection: 09/08/2026		9. MSNI analysis sent for validation: 31/10/2026			
	4. Data collected: 18/10/2026		10. Bulletin sent for validation: 06/11/2026			
	5. Clean dataset sent for validation: R1: 05/10/2026 R2: 19/10/2026		11. Bulletin published: 13/11/2026			
	6. Data analysis sent for validation: R1: 09/10/2026 R2: 23/10/2026		12. Other (specify): _ _/_ _/_ _ _ _			
Humanitarian milestones ***Specify what will the assessment inform and when e.g. The shelter***	**Milestone**					**Deadline**
	X	Donor plan/strategy				15/12/2026
	□	Inter-cluster plan/strategy				NA
	X	PiN calculation / HNO				14/10/2026
	X	IPC (Integrated food security Phase Classification)/CH				14/10/2026

cluster will use this data to calculate PiN numbers for the HNO analysis	□ Cluster plan/strategy	NA
	X NGO platform plan/strategy	15/12/2026
	□ Other (Specify):	_ _/_ _/_ _ _ _

Audience Type & Dissemination ***Specify who will the assessment inform and how you will disseminate to inform the audience***	**Audience type**	**Dissemination**
	X Strategic X Programmatic X Operational □ [Other, Specify]	X General Product Mailing (e.g. mail to NGO consortium; HCT participants; Donors) X Cluster Mailing (Education, Shelter and WASH) and presentation of findings at next cluster meeting X Presentation of findings (e.g. at HCT meeting; Cluster meeting) X Website Dissemination (e.g. Relief Web) □ [Other, Specify]

Detailed dissemination plan required	X Yes	□ No

General Objective	To generate a robust, multi-sectoral evidence base on the humanitarian needs, vulnerabilities, and coping capacities of Non-IDP and internally displaced (IDP) populations across North East, North West, and North Central Nigeria – regions affected by ongoing conflict and displacement – with a view to informing the 2027 Humanitarian and Operational Response Plans and partner programming.
Specific Objective(s)	a) Identify priority needs across Food security, Health, Nutrition, WASH, Education, Protection, Shelter, and livelihoods, disaggregated by population group, sex, age, and disability. b) Characterise vulnerability profiles among Non-IDP and IDP households, and other drivers of their vulnerability. c) Inform program design and sectoral integration through actionable, comparable evidence. d) Support strategic planning and resource mobilization for 2027 program cycle. e) Assess access, safety, and expansion feasibility across targeted LGAs. f) Establish baselines for key sector indicators to enable future outcome monitoring.
Research Questions	• What is the severity and distribution of humanitarian needs across sectors in the target LGAs, and how do these needs differ between Non-IDP community and IDP populations? • What are the affected populations' preferences for aid types and modalities, their satisfaction with humanitarian assistance, and challenges with aid information and voicing feedback? • What are the geographic differences in the prevalence and severity of needs in each sector between the assessed regions and in front line/border areas? • What are the primary drivers of humanitarian vulnerability in the target LGAs? • What are the primary drivers of displacement and the conditions for safe and sustainable return or local integration?

Geographic Coverage	North East Nigeria (Borno, Adamawa, and Yobe – BAY states); North West Nigeria (Kaduna, Kano, Katsina, Kebbi, Sokoto, and Zamfara); and North Central Nigeria (Benue, Kogi, Nasarawa, Niger, and Plateau). Northeast and North West LGAs were originally targeted in consultation with the Nigeria INGO Forum (NIF) and government counterparts based on severity of needs, displacement figures, and accessibility; coverage is now confirmed at LGA level based on partner capacity, and varies by region: North East is near-complete (64 of 65 LGAs covered due to accessibility restrictions); North West is partial (94 of 159 LGAs covered — all 44 Kano State LGAs and 21 further LGAs in Kaduna are not currently covered by any partner). North Central coverage is based on partners prioritisation and the coverage is very limited (18 of 99 LGAs covered) only in Benue, Nasarawa and Plateau. Confirmed coverage sits as an operational layer on top of the underlying sampling design and may be revised as partner coverage is reconfirmed. As of 30/07/2026. Data exclusively for refugees will be collected in Borno, Adamawa, Yobe and Taraba in the North East, Benue in North Central and Cross River and Akwa Ibom in South South.
Secondary data sources	• IOM Displacement Tracking Matrix (DTM) Round 18 (NW/NC) and Round 51 (NE), October 2025 – February 2026 • WorldPop Nigeria 2026, 100m resolution gridded population estimates • Google Open Buildings (Nigeria), February 2026 • FAO & WFP, Hunger Hotspots 2026 report • UNICEF, Farmers–Herders Conflict, 2025 • FEWS NET, Nigeria Food Security Outlook, February–September 2026: Conflict and economic constraints expected to drive expanding lean season crisis outcomes • ACLED, 2026 • North West Nigeria Second Operational Response Plan (August 2025 – July 2026), INGO Forum • IMPACT North East MSNA (2021–2023, IMPACT/IOM-led) and North East MSNA (2024, FACT Foundation-led) • IMPACT North West MSNA (2022, IMPACT with ACF, GISCOR and Pastoral Resolve) • IMPACT 2026 MSNA Indicator Bank • Confirmed partner coverage list, IMPACT/FACT partner consortium with NIF, 30 July 2026

B. Sampling				
Population groups ***Select all population group which your assessment will collect data on***	x	IDPs in camp	X	IDPs in informal sites
	X	IDPs in host communities	□	IDPs [Other, Specify]
	□	Refugees in camp	□	Refugees in informal sites
	X	Refugees in host communities	□	Refugees [Other, Specify]
	X	Host communities	□	[Other, Specify]
Structured questionnaire (Quantitative) –	X	Probability sampling	x	Non - Probability sampling

Select all the apply

Data collection level:	□	Individual	X	Household
	□	Settlement	□	Other (specify): _ _ _ _ _ _ _ _ _

If probability sampling

Sampling method: □ **Random sampling** **X Cluster sampling**

The sampling is stratified: **X Yes** □ **No**

If yes what are the stratifications:

° **Geographic:** **Local Government Areas (LGAs) – Admin-2 equivalent**

° **Population groups:** **Internally Displaced Persons (IDPs), Non-IDP communities (see Section 3.2 for further details on population group definitions)**

° **Other:** _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _

What is the Primary sampling unit (PSU): **Hexagon grid cell (Non-IDP and initial IDP draw); IOM DTM site (supplementary IDP draws)**

If cluster sampling, what is the minimum cluster size? **6 HHs**

Sampling frame:

Do you have the population number at PSU level for all population groups? **X Yes** □ **No**

Selection:

Probability Proportional to Size (PPS): **X Yes** □ **No**

Selection of PSUs with replacement: **X Yes** □ **No**

Aimed precision at stratification level:

90% level of confidence

10+/- % margin of error

Buffer: **10 %**

Total sample size: (Target #): **31,559**

Split by region and population group: North Central 3,441 (1,839 Non-IDP; 1,602 IDP); North East 12,160 (6,562 Non-IDP; 5,598 IDP); North West 15,958 (9,598 Non-IDP; 6,360 IDP).
Targets are planned values and are subject to change throughout data collection in response to known accessibility and resource challenges (see Section 3.6).

Resampling:

Do you have a reserve list of PSUs / households in case of inaccessible area? **X Yes** □ **No**

Data collection method: **X Face to face** □ **Remote data collection**

If non-probability sampling

Sampling method: **x Quota sampling** □ **Purposive** □ **Snowballing**

The sampling is stratified:	**x Yes** **□ No**
If yes what are the stratifications: **° Geographic: LGA** **° Population groups: Refugees** **° Other:** _ _ _ _ _ _ _ _ — _ _ _ _ _ _	

If quota sampling, what characteristics will be used as quota?: The quotas vary between 50 and 70, depending on the registered refugees UNHCR has information on in specific LGAs

Data collection method **x Face to face** **□ Remote data collection**

A second non-probability component, MSNA Light, will be used in four otherwise inaccessible Borno Non-IDP strata (Abadam, Ngala, Nganzai and Guzamala), collected by government enumerators in the main settlement of Abadam, Guzamala and Nganzai, and by the partner team in Ngala's accessible wards (see Section 3.5).

Semi-structured questionnaire (Qualitative)	□ Yes	**x** No

C. Questionnaire

Questionnaire design	**MSNA mandatory indicators** All the mandatory indicators from the MSNA indicator bank, have been included without alteration: X Yes □ No **XLSform for mandatory indicators** The kobo questionnaire provided for the mandatory indicators was used without alteration: X Yes □ No
Data management platform(s)	X IMPACT □ UNHCR □ Other, Specify
Expected output type(s)	X MSNA Bulletin #: 1 X Presentation (Preliminary findings) #: 2 X Interactive dashboard #: 1 □ Report #: _ _ □ Profile #: _ _ X Presentation (Final) #: 1 □ Webmap #: _ _ x Factsheet #: 10 (to be discussed with partners if sectoral ones are relevant) □ Map #: _ _ □ Brief/Situation overview #: _ _
Data publication plan	X Final (anonymised) dataset public, available on IMPACT resource centre X Final (anonymised) dataset public, through HDX connect X Analysis table public, available on IMPACT resource centre

	□ Analysis table public, available on HDX
Visibility *Specify which logos should be on outputs*	***IMPACT***
	Donor: *ECHO, IMPACT pooled funds*
	Coordination Framework: *Nigeria INGO Forum (NIF)*
	Partners: *NEWCAP Consortium (FACT Foundation (FACT), Danish Refugee Council and Solidarités International), NIF partners (Action Against Hunger CARE International, Catholic Relief Services, CBM International, COOPI, FHI 360, International Medical Corps, INTERSOS, International Rescue Committee, Jesuit Refugee Service, Malteser International, Médecins du Monde, Oxfam, PLAN International, Première Urgence Internationale, Save the Children, Search for Common Ground, SOS Children's Villages Nigeria, Street Child, UNICEF, ZOA), UNHCR, Caritas and GISCOR*

2. Rationale

2.1 Background

Since 2016, IMPACT Initiatives has conducted Multi-Sector Needs Assessments (MSNA) to inform humanitarian planning across more than 17 crisis contexts globally, using a coordinated, crisis-wide approach designed to capture the magnitude and severity of needs across all assessed population groups. In Nigeria, this evidence base has to date been built through separate, non-harmonised efforts: IMPACT and IOM led the MSNA in the North East (BAY states) between 2021–2023, IMPACT with support from ACF, GISCOR and Pastoral Resolve led the North West MSNA[1] in 2022, and FACT Foundation led the North East SRNA in 2024. While these initiatives have contributed valuable evidence, the absence of a single, harmonised instrument has meant humanitarian actors operating across the North East, North West and North Central regions have largely conducted independent sectoral assessments, producing fragmented evidence bases, duplicated field efforts, and inconsistent indicators that impede coordinated response planning and cross-regional comparability. This assessment is conducted in line with the Grand Bargain's Workstream 5 (Improve Joint and Impartial Needs Assessments)[2], which calls on humanitarian actors to improve joint, impartial needs assessments – a principle directly reflected in this cycle's move toward a single, harmonised instrument across three regions and implementing partners.

This fragmentation persists at a moment when needs are intensifying and increasingly overlapping across regions. Nigeria has been identified among the crises of highest concern in the latest Hunger Hotspots report[3], driven by the compounding effects of protracted conflict, large-scale displacement, inflationary pressure, and recurrent climatic shocks. The three regions are converging on a common moment of acute need, but for distinct reasons.[4] The current Humanitarian Needs and Response Plan for Nigeria sought US$516 million against 5.9 million people facing severe-to-extreme needs in the North East alone in 2026, even as attacks on civilians intensified – non-state armed groups killed an estimated 4,000 civilians in the first eight months of 2025, matching the total recorded for all of 2023.[5]

In the North East, conflict has now persisted long enough that access constraints[6] and nutrition failure are compounding each other rather than resolving: an estimated 8.8 million people, including 4.9 million children, require urgent assistance, with Borno State alone hosting the majority of the region's IDPs, over half in formal camps or camp-like settings. In Borno State alone – the epicentre of the North East crisis – an estimated 2.7 million people include 1.8 million IDPs and 0.9 million

[1] Northwest MSNA 2022
[2] Inter-Agency Standing Committee (IASC), Grand Bargain Workstream 5: Improve Joint and Impartial Needs Assessments
[3] The latest Hunger Hotspots 2026 report (FAO & WFP)
[4] ACAPS, Conflict dynamics and humanitarian implications in North East, North West, and North Central Nigeria, November 2025
[5] OCHA, Nigeria: 2026 Humanitarian Needs and Response Plan, January 2026
[6] OCHA, North-East Nigeria: BAY States First Quarter Humanitarian Access Snapshot (as of 29 April 2026)

returnees, with protection concerns including gender-based violence and forced recruitment continuing to be reported.[7] The region faces a critical nutrition emergency, with over 400,000 children at risk as therapeutic food supplies approach stock-out, while a funding gap of approximately US$160 million threatens continuity of life-saving interventions across health, nutrition, WASH and protection. This nutrition emergency is compounded by a cholera outbreak first confirmed in Borno State on 1 May 2026, which by mid-2026 had spread to over 16 Local Government Areas and beyond Borno, including to Plateau State, with more than 35,500 suspected cases and approximately 200 deaths recorded.[8] FEWS NET's most recent Food Security Outlook projects that between 21 and 22 million people will require humanitarian assistance through the peak of the June–August 2026 lean season, with Crisis (IPC Phase 3) outcomes expanding across much of northern Nigeria and Emergency (IPC Phase 4) outcomes persisting in inaccessible areas of the North East through at least September 2026[9]. This is consistent with the Cadre Harmonisé – the government-led food security classification – which projects that 34.7 million people nationally, including 6.4 million in the North East alone, will face Crisis-level food insecurity or worse by August 2026, the highest national figure ever recorded.[10] With primary data collection scheduled during this projected peak, the assessment is positioned to capture needs at their most acute point in the year, directly informing the evidence base for the 2027 humanitarian plan.

The North West's crisis is of a different character: rather than active conflict displacing people directly, a banditry economy is eroding the region's ability to sustain itself. Widespread poverty (76% of the population lives in multidimensional poverty), banditry, communal violence, and recurrent flooding – which in 2025 alone affected 34 of Nigeria's 36 states, displaced an estimated 896,000 people nationally, destroyed 226,000 homes, and flooded 1.3 million hectares of farmland mid-harvest[11] - are damaging homes, farmland and infrastructure; IOM DTM Round 18[12] records displacement affecting more than 790,000 people, most hosted within already overstretched communities, while public health conditions remain critical amid weak health systems[13]. A further, smaller population has fled across the border into Niger – UNHCR reported over 40,000 people crossing from Sokoto, Zamfara and Katsina States amid an upsurge in violent attacks – a cross-border dimension this assessment's within-Nigeria sampling frame does not capture but which is worth noting as context.[14] This is compounding into a self-reinforcing agricultural collapse: staple production in Katsina, Sokoto and Zamfara declined by 23–27% against the five-year average in 2025, as displacement, informal levies imposed by armed groups, and restricted access to farmland curtailed cultivation[9] - meaning next season's harvest is now also at risk, not just this year's food security.

In the North Central zone, the main driver of needs is a specifically escalating land conflict rather than a generalised crisis: farmer–herder clashes cluster predictably in the rainy and planting season (approximately May to October), as transhumant herds move into farming areas and compete for scarce grazing land and water, a pattern that is intensifying as climate variability alters migration timing[4]. This has produced sustained displacement: communal and farmer–herder violence has affected over 584,000 people across Kogi, Nasarawa, Niger, Plateau and Benue states[12], with Benue hosting the highest caseload and UNICEF figures indicating over 480,000 IDPs there by mid-July 2025 due to ongoing clashes[15]. According to ACLED, Benue alone recorded 848 conflict-related deaths in 2025, followed by Niger (579) and Kwara (307) States[16] - figures that reflect an escalating overlap between communal conflict and organised violence, rather than a static or contained dispute over land and resources. Displaced populations there are increasingly seeking refuge in spontaneous sites as well as host communities, spreading the response burden across a wider and less coordinated set of locations than in the other two regions.

[7] Global Protection Cluster, North East Nigeria Protection Analysis Update
[8] UNICEF, Nigeria Humanitarian Flash Update: Cholera, Borno State, 7 June 2026
[9] FEWS NET, Nigeria Food Security Outlook, February–September 2026: Conflict and economic constraints expected to drive expanding lean season Crisis outcomes, February 2026
[10] FAO, Escalating Food Crisis Leaves 6.4m People Food Insecure in Northeast Nigeria (Cadre Harmonisé, Oct/Nov 2025 cycle), 2026
[11] IOM, Nigeria Crisis Response Plan 2026-2028, December 2025
[12] IOM DTM Round 18, October 2025, published February 2026
[13] North West Nigeria Second Operational Response Plan (August 2025 – July 2026), INGO Forum
[14] UNHCR, Brutal violence in northern Nigeria forces thousands into Niger, October 2025
[15] UNICEF – Farmers-Herders conflict, 2025
[16] ACLED, 2026

Within host community areas across all three regions, populations include both non-displaced residents and smaller numbers of refugees – predominantly Cameroonian nationals, of whom UNHCR reports over 119,000 assisted across Nigeria, mainly in Akwa Ibom, Benue, Cross River and Taraba States and Adamawa[17] - living embedded within host communities rather than in formal camps; refugees are excluded from the Non-IDP sampling frame and covered by a separate quota sample (Sections 3.1 and 3.3), while IDPs – whether in formal camps, informal/spontaneous sites, or dispersed within host communities – are assessed through a separate sampling frame reflecting their distinct displacement profile and needs.

It is in this context – three regions with distinct but converging crisis drivers, and an information landscape fragmented across multiple actors and past exercises – that the Nigeria MSNA is being led jointly by IMPACT Initiatives and the FACT Foundation, within the coordination structure of the Nigeria INGO Forum (NIF), and in consultation with government counterparts, to consolidate multi-sector needs data into a single, authoritative, and comparable evidence base across all three regions simultaneously.

2.2 Intended impact

The MSNA will generate a robust, unified, multi-sectoral evidence base on the humanitarian needs, vulnerabilities, and coping capacities of conflict- and displacement-affected populations across the North East, North West, and North Central zones, directly informing the 2027 Humanitarian and Operational Response Plans and partner programming. By harmonising indicators, tools, and methodology across three regions and multiple implementing partners, the assessment will reduce respondent burden and enumerator fatigue, enable intersectoral analysis to identify compounding vulnerabilities across food security, health, nutrition, WASH, education, protection, and shelter, and allow direct comparison of needs between Non-IDP and IDP populations within the same LGAs – closing a comparability gap that fragmented, single-actor assessments have not been able to address. The assessment will further establish baseline values for key sectoral indicators to enable future outcome monitoring and generate specific evidence on the dynamics of population movement, displacement drivers, and conditions for safe and sustainable return, particularly in the North West and North Central zones. Findings will be disseminated to NIF, Inter-sectoral Coordination Group (ISCG), sector/cluster coordination groups, government counterparts, and donors through a joint dataset, sectoral analysis, an interactive dashboard, and a dissemination workshop, to support evidence-based targeting, resource allocation, and prioritisation decisions across the humanitarian response architecture – strengthening donor confidence through a transparent, jointly-owned methodology rather than parallel, actor-specific evidence streams.

This design does not aim for complete coverage of every settlement or site; the research instead targets samples that are representative at LGA level within the LGAs covered by partners, shaped by practical constraints detailed further in **Annex 1**. Access to certain clusters or ward-level areas, particularly in parts of the North East, may be limited at the time of data collection, with replacement clusters already identified and readied. Because neither the IDP nor Non-IDP population estimates are drawn from a recent census, a small number of clusters may also deliver fewer interviews than targeted. Coverage of hard-to-reach areas remains subject to partner coordination and capacity, with certain strata excluded outright and coverage confirmed at LGA level (Section 3.6). Findings will note these gaps transparently by LGA and population group.

[17] UNHCR, Nigeria Factsheet, Operational Data Portal

3. Methodology

3.1 Methodology overview

The MSNA will employ a quantitative household survey administered face-to-face. The quantitative questionnaire is drawn from the IMPACT 2026 MSNA Indicator Bank, reviewed and endorsed by Global Clusters and validated in-country, and implemented through KoboCollect.

A two-stage stratified cluster sampling design is used, covering Non-IDP and IDP populations across three regions of northern Nigeria – North West, North East and North Central – spanning fourteen states. Non-IDP and IDP populations are treated as two entirely separate sampling frames throughout, reflecting both the different population data available for each and a different field procedure for each at the household selection stage. The sampling universe was built from a regular hexagonal grid covering the assessment area, with each stratum defined by Admin-2 (Local Government Area) and population type together. Clusters are selected at Stage 1 using Probability Proportional to Size (PPS) sampling, so that more densely populated locations are proportionately more likely to be selected. Clusters are hexagons for Non-IDPs and the initial IDP draw, and individual DTM sites for supplementary IDP draws (**Section 3.5**). At Stage 2, household selection differs by population group to reflect a genuine difference in the reliability of available data: Non-IDP clusters draw households from satellite-derived building footprints, while IDP clusters use the site's own recorded GPS location as the basis for field-based household listing. The sample is designed to a 90% confidence level with a 10% margin of error at Admin-2 (LGA) level. The original design totalled approximately 52,754 household interviews across 5,864 clusters and 323 LGAs; based on confirmed partner coverage, 31,559 household interviews are planned across 3,428 clusters and 176 LGAs (see **Section 3.6** for detail). These are plan3.1ned targets and may change during data collection (**Section 3.6**).

In parallel, data collection for refugees will be conducted using a quota sampling approach, with the aim of collecting between 50 and 70 surveys per LGA in the North East, North Central, and South-South regions. UNHCR has records of the total number of refugees by area but does not have precise information on the distribution of this population across LGAs.

A second non-probability component, MSNA Light, covers four otherwise inaccessible Borno Non-IDP strata (Abadam, Nganzai, Ngala and Guzamala) (see **Section 3.5**).

3.2 Key definitions

- **Local Government Area (LGA):** Nigeria's second-level administrative division (admin-2), equivalent to a district or county. LGAs form the basis of geographic stratification for this assessment.
- **Non-IDP:** The general population residing in an assessed area, inclusive of host and returnee households residing among them, and exclusive of refugees (see below).
- **Internally Displaced Person (IDP):** In line with the UN Guiding Principles on Internal Displacement[18], persons or groups of persons who have been forced or obliged to flee or leave their homes or places of habitual residence, in particular as a result of or in order to avoid the effects of armed conflict, situations of generalised violence, violations of human rights, or natural or human-made disasters, and who have not crossed an internationally recognised State border. For this assessment, IDPs are identified through IOM Displacement Tracking Matrix (DTM) site data[19] and may reside in formal camps, informal/spontaneous sites, or dispersed within host communities.
- **Refugee:** A person who has crossed an international border and meets the criteria set out in the 1951 UN Refugee Convention and/or the 1969 OAU Convention Governing the Specific Aspects of Refugee Problems in Africa[20].
- **Returnee:** A person who has undergone a migratory movement (whether as an IDP or a refugee) and returned to their place of habitual residence[21]. Given the complexity of population and social dynamics in Nigeria, returnee

[18] UN Office for the Coordination of Humanitarian Affairs (OCHA), Guiding Principles on Internal Displacement, 1998.
[19] International Organization for Migration (IOM), Displacement Tracking Matrix (DTM), Nigeria.
[20] UN Convention Relating to the Status of Refugees, 1951, and Protocol, 1967; Organisation of African Unity (OAU) Convention Governing the Specific Aspects of Refugee Problems in Africa, 1969.
[21] IOM, Glossary on Migration, 2019.

households are assumed to be embedded within the Non-IDP population and are not treated as a separately identifiable or measurable sampling stratum.

- **Household:** A group of persons who share the same living accommodation, who pool some or all of their income and wealth, and who consume certain types of goods and services collectively, mainly housing and food[22].
- **Head of Household:** A person who makes decisions on behalf of the entire household. The MSNA interviews respondents who either (i) report serving as head of household, or (ii) report they are able to answer on behalf of the head of household[22].
- **IDP camp:** A formally recognised, planned or managed site established specifically to host displaced populations, typically with coordinated service provision[19].
- **Informal/spontaneous site:** A self-settled displacement location not formally planned or managed, often lacking coordinated service provision, identified through IOM DTM site data[19].
- **Cluster (Primary Sampling Unit, PSU):** The geographic unit selected at the first stage of sampling, from which households are drawn for interview at the second stage. This assessment uses a regular hexagonal grid as the sampling frame, with clusters selected via probability-proportional-to-size (PPS) sampling (see **Measure of Size**) so that more populous grid cells have a proportionally higher chance of selection. For IDPs, the initial draw selects hexagons and supplementary draws select individual DTM sites; the two are combined in the design weights (**Annex 1**, A1.7). Household identification within a selected cluster differs by population group; see **Section 3.5** (Stage 2: household selection) for the full method.
- **Accessible Area**: The geographic area from which the sampling frame was constructed: the selected States (Admin-1) of interest minus two exclusions. First, a border buffer along Nigeria's international borders: 20 kilometres along the border with Niger in the North East, and 5 kilometres along the borders with Chad, Cameroon and Benin and along the border with Niger in the North West. Second, Admin-3 areas that data-collection partners have reported as inaccessible or as not currently functioning settlements, in the LGAs they cover. Both exclusions were developed in consultation with the data-collection partners, and only grid cells within the accessible area were eligible for the frame. Partners will continue to report access at ward and cluster level during data collection, and the accessible area will be updated accordingly.
- **Accessible population:** The households in a stratum's areas reported accessible by data-collection partners. It is the denominator of every margin of error. A stratum is removed from the sample if less than 10% of its population lives in accessible areas (WorldPop population for Non-IDPs; DTM site household figures for IDPs).
- **Achieved interview:** A completed household interview that is matched to a sampled point and has not been removed under the data rules in **Section 3.7**.
- **Supplementary cluster and spare cluster:** A supplementary cluster is drawn during data collection by the same PPS method from the stratum's remaining accessible pool, using fresh units first and allowing a repeat draw only once the fresh pool is exhausted. A spare cluster is a pre-drawn reserve (up to two per stratum), used only when a cluster cannot be completed, in rank order; unused spares count toward no target, margin of error or weight.
- **Measure of Size (MOS):** The population or household estimate assigned to each candidate cluster, used to select clusters with Probability Proportional to Size (PPS), such that larger clusters have a proportionally higher probability of selection[23].
- **Design Effect (DEFF):** A measure of how much precision is lost (or gained) from using cluster sampling instead of a fully random sample of the same size, driven by how similar households within the same cluster tend to be to one another. Used to calculate the sample size needed to achieve the assessment's target precision[24].
- **Intra-Cluster Correlation Coefficient (ICC):** A measure of how similar households within the same cluster are to one another on the indicators being measured, ranging from 0 (no similarity) to 1 (identical). A key input to the Design Effect[24].
- **Margin of Error (MoE):** The maximum expected difference between a sample-based estimate and the true population value, at a stated confidence level – e.g., a 10% margin of error means the true value is expected to fall within ±10 percentage points of the survey estimate[24].
- **Confidence Level:** The probability that the true population value falls within the survey's stated margin of error, were the survey repeated many times – this assessment targets a 90% confidence level[24].

[22] IMPACT 2026 MSNA Indicator Bank / IMPACT Initiatives standard MSNA definitions.
[23] Standard survey sampling methodology reference (e.g. IMPACT Research Design Guidelines).
[24] UN Statistics Division, Household Sample Surveys in Developing and Transition Countries, Chapter VI

- **Accountability to Affected Populations (AAP):** A set of commitments and practices ensuring affected populations' feedback and preferences inform humanitarian programming, captured in this assessment through dedicated questionnaire indicators[25].
- **Washington Group Short Set on Functioning (WG-SS):** A standardised set of questions developed by the Washington Group on Disability Statistics to identify persons with disabilities in a manner comparable across countries and contexts[26].
- **Multi-Sector Needs Index (MSNI):** An analytical framework developed by IMPACT Initiatives to classify and compare the severity of humanitarian needs across sectors and population groups, using standardised indicators and severity thresholds[27].

3.3 Population of interest

The points below outline the geographical area and population assessed as well as unit of measurement.

- **Geographical area assessed:** The assessment covers LGAs across three regions: North East Nigeria (Borno, Adamawa, and Yobe); North West Nigeria (Kaduna, Kano, Katsina, Kebbi, Sokoto, and Zamfara); and North Central Nigeria (Benue, Kogi, Nasarawa, Niger, and Plateau). LGAs were originally prioritised in consultation with the Nigeria INGO Forum (NIF) and government counterparts based on severity of needs, displacement figures, and accessibility; confirmed partner coverage varies substantially by region, with North East near-complete, North West partial, and North Central very limited (see **Section 3.6** for confirmed LGA counts and detail).
  Exclusively for refugees, the assessment covers North East (Adamawa, Borno, Yobe, Taraba), North Central (Benue), South-South (Cross River, Akwa Ibom).

- **Population assessed:** The population of interest comprises two groups, each assessed through a dedicated stratified sampling frame. (i) Non-IDP households, including returnee households and excluding refugee households (see Section 3.2 Key definitions for all population group definitions), which is aimed to represent the general population residing within host communities rather than in formal camps or displacement sites. Given the complexity of population and social dynamics in Nigeria, returnees are assumed to be embedded within host community populations rather than separately identifiable or measurable and are therefore not treated as a distinct sampling stratum. (ii) Internally displaced households (IDPs), encompassing those in formal camps, informal/spontaneous sites, and those dispersed within host communities.

  In Nigeria, IDPs are not categorised based on the duration of their displacement. According to the DTM[28], additional categories include IDPs on a pathway to durable solutions, integrated IDPs, and relocated IDPs, but none of these classifications incorporates a time-based criterion. This absence of a temporal distinction makes it challenging to clearly differentiate between IDPs and host community members, especially in the North East where displacement has been ongoing since 2014, 81% of IDPs were displaced during the period of 2014–2021[29].

  Non-IDP communities are sampled using WorldPop Nigeria gridded population estimates as the measure of size, while IDPs are sampled using IOM DTM site-level data, allowing direct comparison of needs between the two groups within the same LGAs.

  In addition to non-IDPs and IDPs selected from the stratified sampling frame, refugees in Nigeria are also included in the population of interest and will be sampled using a quotas sampling approach. UNHCR provided the number

[25] Inter-Agency Standing Committee (IASC), Commitments on Accountability to Affected People (CAAP).
[26] Washington Group on Disability Statistics, Washington Group Short Set on Functioning.
[27] IMPACT Initiatives, Multi-Sector Needs Index (MSNI) methodology (forthcoming, 2026).
[28] IDPs on a pathway to a durable solution are displaced persons who, while still displaced, are progressively addressing their displacement-related needs, such as safety, housing, livelihoods, access to services, and rights, so they can sustainably rebuild their lives through local integration, return, or relocation elsewhere in the country. Integrated IDPs are displaced persons who have assimilated into the local community, in the location that they were displaced to. Relocated IDPs are displaced persons who have physically moved (voluntarily or organised relocation programmes) from camps, unsafe areas, or high-risk zones to a new settlement/site.
[29] Nigeria — North-East Displacement Report Round 51 (October 2025) | Displacement Tracking Matrix

of registered refugees at the LGA level, and these figures were used to establish a quota of approximately 50 to 70 surveys per LGA.

- **Unit of measurement:** The primary unit of measurement is the household, with the questionnaire administered to the head of household or another adult household member able to respond on their behalf. Selected individual-level questions — covering education, health, and nutrition indicators — are additionally captured at the individual level within the household interview.

Sampling frame construction – quotas refugees' sample

UNHCR provided the information on the number of individual registered refugees in the country and select some locations of interest and priority. As the objective was to report indicative results at a LGA level, there were agreed quotas by LGA to saturate the sample and collect a good number of surveys. Please see the table underneath. UNHCR will work with Caritas and GISCOR, local organisations that will be the ones in charge of finding the households to be interviewed.

Region	State	LGA	Refugees & Asylum Seekers (UNHCR, 2026)	Sample quota
North East (BAY)	Adamawa	Madagali	18,396	70
	Adamawa	Maiha	7'895	70
	Adamawa	Michika	3'442	70
	Adamawa	Mubi North	8'781	70
	Adamawa	Mubi South	6'195	70
	Borno	Mobbar	11'225	70
	Yobe	Geidam	2'136	60
North East (non-BAY)	Taraba	Sardauna	8'846	70
	Taraba	Takum	3'154	60
	Taraba	Kurmi	2'890	60
North Central	Benue	Kwande	9'031	70
South-South	Cross River	Ogoja	15'655	70
	Cross River	Obanliku	13'176	70
	Cross River	Boki	6'502	70
	Cross River	Ikom	3'217	60
	Cross River	Akamkpa	2'872	60
	Cross River	Etung	2'362	60
	Cross River	Calabar-Municipal	1'284	60
	Cross River	Obudu	1'080	60
	Akwa Ibom	Oron	733	50

3.4 Secondary data review

Source	Relevance	Usage
IOM Displacement Tracking Matrix (DTM) - **Round 18 (NW/NC) and**	Provides georeferenced displacement records and	To construct the IDP sampling frame (measure of size and site locations) and to inform the

Round 51 (NE), October 2025 – February 2026	site/settlement-level IDP population estimates	Rationale's displacement figures for the North West and North Central zones
WorldPop Nigeria 2026, 100m resolution gridded population estimates	Provides modelled population counts at fine spatial resolution across all assessed zones	To estimate the Non-IDP population per hexagon, converted to household counts, for construction of the Non-IDP sampling frame and measure of size in PPS selection. GRID3 was initially considered for this purpose, as reflected in the Concept Note, but WorldPop was selected following comparative review during sampling frame construction
Google Open Buildings (Nigeria), February 2026	Provides geolocated building footprint data across assessed areas	To identify household locations within selected clusters for stage-2 (household-level) selection
FAO & WFP, Hunger Hotspots 2026 report	Identifies Nigeria among crises of highest global concern	To inform the Rationale and justify the urgency and geographic prioritisation of the assessment
UNICEF, Farmers–Herders Conflict, 2025	Reports on IDP caseloads in Benue State driven by communal violence	To inform the Rationale's North Central displacement figures
FEWS NET, Nigeria Food Security Outlook, February–September 2026: Conflict and economic constraints expected to drive expanding lean season crisis outcomes	Reports on compounding effects of contextual regional issues in relation to food insecurity in the lean season	To inform the Rationale's understanding of food insecurity in the area, particularly in relation to the lean season
ACLED, 2026	Tracks conflict-related fatalities by state	To inform the Rationale's characterization of North Central conflict severity (Benue, Niger, Kwara)
North West Nigeria Second Operational Response Plan (August 2025 – July 2026), INGO Forum	Provides an overview of humanitarian conditions and response gaps in the North West	To inform the Rationale's description of North West public health and access conditions
REACH Resource Centre, Nigeria — Northeast MSNA (2021–2023, IMPACT/IOM-led) and North East MSNA (2024, FACT Foundation-led); North West MSNA (2022)	Prior MSNA cycles conducted in the North East and North West	To inform indicator selection, geographic prioritisation, methodology design, and (where comparable) trend triangulation against the current round
IMPACT 2026 MSNA Indicator Bank	IMPACT's global guidance on core MSNA sectoral indicators, reviewed and endorsed by Global Clusters	To inform questionnaire design and ensure indicator standardization across sectors
Confirmed partner coverage list, IMPACT/FACT partner consortium with NIF, 30 July 2026	Records which LGAs have at least one partner confirmed to collect data	Joined to the design sampling frame to derive the coverage-confirmed (working) frame; see Section 3.6

3.5 Primary Data Collection

Sampling frame construction – stratified sampling frame (Non-IDPs and IDPs)

The sampling universe was built from a regular hexagonal grid covering the assessment area, rather than directly from administrative or settlement boundaries. A regular grid gives every part of the landscape an equal opportunity to be represented in the frame and avoids the irregular shapes and highly uneven sizes of using Local Government Area (LGA) or ward polygons as the base sampling unit. Two independent population layers were attributed to this grid, one per population group: a WorldPop gridded population estimate for Non-IDP populations, and IOM Displacement Tracking Matrix (DTM) site-level location data for IDP populations, recording IDP sites with their GPS coordinates and estimated household counts. Grid cells with no meaningful population under a given layer were excluded from the corresponding frame, so that a Non-IDP cluster can only be drawn from a cell known to have a resident Non-IDP population, and an IDP cluster can only be drawn from a cell containing at least one recorded IDP site.

Before either population layer was applied to the hexagon grid, a further exclusion was applied to define the accessible area available for sampling: a buffer with neighbouring country-specific parameters along Nigeria's international borders, and a set of areas reported as inaccessible by data-collection partners were removed from the sampling universe entirely (see **Annex 1** for the exact rule).

Both frames were stratified by Admin-2 (LGA) and population type together, producing up to two strata per Admin-2 – one Non-IDP, one IDP – wherever both populations are present. Each stratum was treated as an independent sampling domain with its own required sample size, its own selection of clusters, and its own design weight.

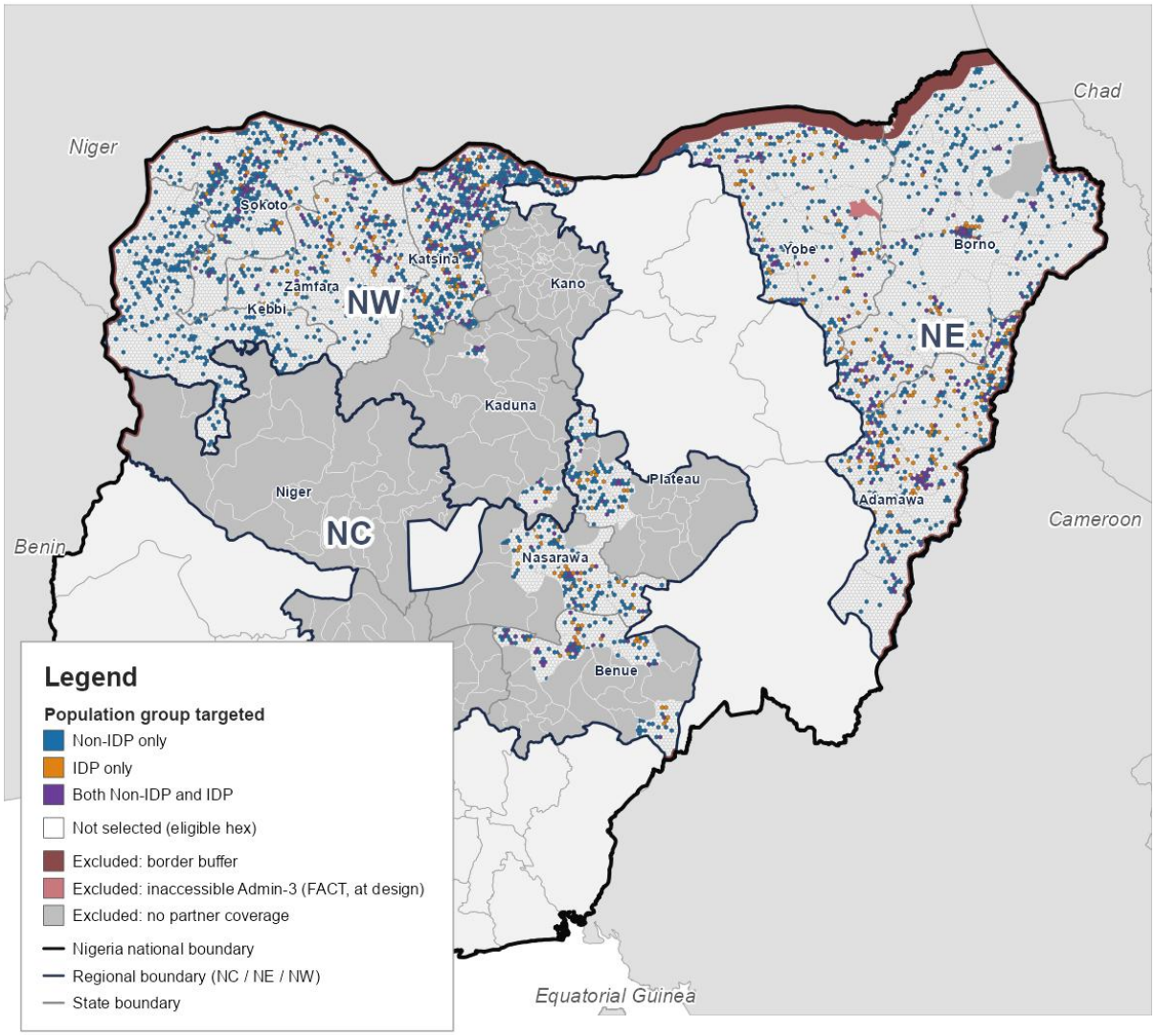


Figure 1: Sampling design map — planned clusters by population group targeted (Non-IDP only, IDP only, both) and excluded areas: border buffer, Admin-3 areas reported inaccessible at design, and LGAs with no partner coverage including certainty-stratum exclusions, against Nigeria's national, regional and state boundaries.

Stage 1: cluster selection

Within each stratum, the number of clusters required was calculated using a standard two-stage cluster-survey sample size formula, incorporating the 90% confidence level, a conservative 50% expected proportion, a 10% margin of error, a design effect reflecting the extra imprecision introduced by clustering households together, a finite-population correction, and a 10% buffer for attrition and non-response.

Strata with a very small total household population were treated as certainty strata: every eligible grid cell in that stratum was included in the sample directly, since the underlying population was too small to sample from meaningfully. Under current data, all 18 certainty-eligible (IDP) strata fail the projected margin-of-error rule and are excluded (Annex 1, Section A1.5). All other strata used Probability Proportional to Size (PPS) sampling, in which the chance of a given grid cell being selected as a cluster is proportional to its estimated household population – keeping the achieved sample self-weighting toward where most of the population actually lives, while still giving every eligible location a non-zero chance of selection.

Supplementary IDP clusters. Because a hexagon can contain several DTM sites, a hexagon-level draw would leave smaller co-located sites with no chance of selection. Supplementary IDP clusters are therefore drawn at site level, by

PPS on site household counts from the stratum's accessible sites (excluding sites within 30 m of an existing cluster), and tagged in the sampling frame.

Adaptation during data collection. Partners will report access at ward and cluster level throughout fieldwork. A cluster that becomes inaccessible or cannot be completed will be replaced within its stratum, first from the stratum's spare clusters and then from supplementary clusters drawn from its remaining accessible pool. Where a stratum would otherwise miss the 10% margin of error, supplementary clusters will be added. A stratum is removed from the sample if less than 10% of its population remains in accessible areas.

Stage 2: household selection

Household selection was designed and implemented differently for Non-IDP and IDP clusters, reflecting a genuine, deliberate difference in what data is reliably available for identifying individual households in each context. Household selection for IDP clusters uses the site's own recorded GPS location as the starting point for both DTM population categories, but the method for building the household list differs between them.

Non-IDP clusters: building-footprint selection

For Non-IDP clusters, individual building footprints identified from high-resolution satellite imagery were used as a proxy for household locations. From the eligible building locations within a cluster, six households were selected at random as the primary sample, with a further reserve list drawn and ranked for field teams to use whenever a primary household cannot be reached.

IDP clusters: In-camp sites

For in-camp IDP sites, field teams always first attempt the same full-listing method used elsewhere in the design: on arrival at the site's recorded GPS point, teams construct a complete household list, which is then entered into the data collection tool to generate the random selection of six primary households plus a ranked reserve list automatically. Where a full listing isn't feasible in the field – potential limitation due to densely populated camps – teams instead fall back to a random walk: starting from a pre-assigned point, moving in a direction fixed in advance (not decided on the spot), and interviewing every n-th household at a fixed interval until reaching the same target.

IDP clusters: Host-community sites

For sites where IDPs are recorded as dispersed in a host community, field teams instead ask the site's chief or head of settlement for a listing of the displaced households, bounded by local social recognition of "belonging to this settlement," rather than by any GPS radius or administrative boundary; where the settlement includes multiple distinct named areas, a contact within each is asked for a listing, and the lists are pooled before selection. This single additional instruction – asking about sub-areas – is applied uniformly at every host-community site rather than triggered by a separate rule: for a small settlement it collapses back to one informant and one list, while for a large or dense settlement it distributes the listing task across several contacts. In both cases, the resulting household list is entered into the data collection tool, which generates the random selection and ranked reserve list automatically rather than leaving the draw to field-level judgement.

This design was informed by a feasibility review of all 1,099 host-community IDP sites in the sampling frame, cross-referencing each site's surrounding population density against the same gridded density layer used for the Non-IDP frame, and each site's DTM-recorded caseload against a household-count threshold. Both measures varied widely – caseloads ranged from single figures to over 6,000 households at one site, and surrounding density spanned rural to dense urban settings – with no single dividing line separating a small number of "urban" sites from the rest. Rather than build a second field method for flagged sites, the multi-area listing instruction above is designed to scale to this variation without asking field teams to judge in advance which category a site falls into. A small number of sites combining very high surrounding density with a very large, recorded caseload (18 of the 1,099) are flagged for field coordinators to give

additional supervision attention and a larger reserve list; even a multi-area listing may be incomplete at this scale, and findings for these specific sites should be interpreted with this limitation in mind.

Because host-community household selection still relies on locally-identified informants to compile the list, rather than an independently verifiable structure such as satellite-derived building footprints, further limitations apply – including the risk that a listing under-represents households not socially connected to the informants consulted, and the convention of attributing a site's full caseload to whichever hexagon contains its recorded GPS point regardless of how far the settlement itself extends – both detailed in **Annex 1.**

A small number of Non-IDP strata across nine states, concentrated in but not limited to conflict-affected LGAs of Borno, required a design adjustment – adding the minimum number of supplementary clusters needed to close each stratum's own gap, at the standard six households per cluster – to reach the assessment's target precision without inflating the design effect; this adjustment, and the reasoning behind it, is detailed in full in **Annex 1**.

MSNA Light. In four Borno Non-IDP strata that are otherwise inaccessible (Abadam, Nganzai, Ngala and Guzamala), collection is negotiated with government counterparts and carried out by government enumerators (in Ngala, by the partner team in the LGA's accessible wards). In Abadam, Guzamala and Nganzai, clusters are drawn by PPS within each LGA's main settlement only, with settlement extent delineated from Google Open Buildings, and six target plus six reserve buildings are selected per cluster. As GPS verification is not possible under this arrangement, compliance with the selected points cannot be verified. MSNA Light results therefore carry no probability guarantee: they are reported by LGA, are not weighted, and are never aggregated with full-design strata or described as representative of the LGA.

Region	LGAs	Confidence Interval (CI)	Target MoE	MoE Range	Clusters	Sample: Non-IDP	Sample: IDP	Total Sample
North Central	18	90%	10%	8.3%–9.3%	392	1,839	1,602	3,441
North East	64	90%	10%	8.3%–9.3%	1,326	6,562	5,598	12,160
North West	94	90%	10%	7.1%–9.3%	1,710	9,598	6,360	15,958
Assessment Total	**176**	**90%**	**10%**	**7.1%–9.3%**	**3,428**	**17,999**	**13,560**	**31,559**

Table 1: Sample summary by region – for LGA- and stratum-level detail see Table 7 (Annex 1, Section A1.8).

3.6 Partner Coverage

The sampling design described above **(Section 3.5)** defines the full universe of LGAs eligible for assessment. Actual data collection is further constrained by confirmed partner capacity: an LGA is only included in the fielded (working) sample if at least one data-collection partner has confirmed they can cover it. This is an operational layer on top of the design, distinct from – and additional to – the certainty-stratum precision exclusions described in Annex 1, Section A1.5.

The effect on the fielded sample varies substantially by region, and differs between the Non-IDP and IDP strata within a region since certainty-stratum exclusion currently affects the IDP stratum only:

Region	Non-IDP design LGAs	Non-IDP final LGAs	IDP design LGAs	IDP final LGAs
North Central	99	18	66	18
North East	65	64	59	59
North West	159	94	122	71
Assessment Total	**323**	**176**	**247**	**148**

Table 2: LGA coverage summary by region - for LGA- and stratum-level detail see Table 7 (Annex 1, Section A1.8). In this table, design LGAs refer to the number of LGAs included within the sampling design before partner coverage was performed, and final LGAs refers to the number of LGAs within the final sampling frame once coverage had been confirmed.

This reduces the assessment's total planned sample from the original design total of 52,754 to a coverage-confirmed working total of 31,559 household interviews **(see Table 1)**.

These coverage and sample targets are planned values, not guarantees. They are subject to change throughout data collection in response to known accessibility and resource challenges: where access is lost, replacement clusters will be drawn from the stratum's remaining accessible pool, and where partner capacity or access changes, coverage of individual LGAs may change. Findings will report the coverage actually achieved by LGA and population group.

17 LGAs nationally are excluded under both criteria simultaneously — 14 in Kano State, 2 in Niger State (Katcha, Lapai), and 1 in Kaduna State (Makarfi) — all affecting the IDP stratum only; no Non-IDP stratum is currently affected by this overlap. One further LGA, Gwandu (Kebbi State), is the reverse case: its Non-IDP stratum is fully covered by a partner, while its IDP stratum is separately excluded on certainty-stratum grounds alone, unrelated to partner coverage. Full LGA-level detail is provided in **Annex 1**.

Analysis level	Non-IDP	IDP
LGA	Representative within 172/176 covered LGAs (90% CI / 10% MoE by design); the 4 Borno MSNA Light LGAs are indicative only; not assessed elsewhere	Representative within 148/176 covered LGAs (90% CI / 10% MoE by design) where the IDP stratum was also fielded; not assessed elsewhere
State	State figures will combine the covered strata and represent the covered population only, with the share of households represented reported; not assessed for zero-coverage states — see Annex 1	Same logic, computed independently for IDP
Regional (NE/NW/NC)	Not an independently designed level; aggregate quality depends on how many of that region's states are individually representative — see Annex 1	Same
National	Indicative only — LGA is this MSNA's designed reporting unit	Indicative only

Table 3: Expected representativity levels and implications for differing sampling design methods, split by analysis level and population type. Full state-level detailed expected representativity can be found in Annex 1.

This coverage gap is operational, not a precision limitation: for LGAs excluded on coverage grounds, no indicator of any kind can be reported, at any level of confidence – this differs from the certainty-stratum exclusions, which reflect a deliberate precision threshold rather than an absence of data collection capacity. As with all design decisions in this document, confirmed coverage reflects the position as of 30 July 2026 and may be revised if partner capacity changes.

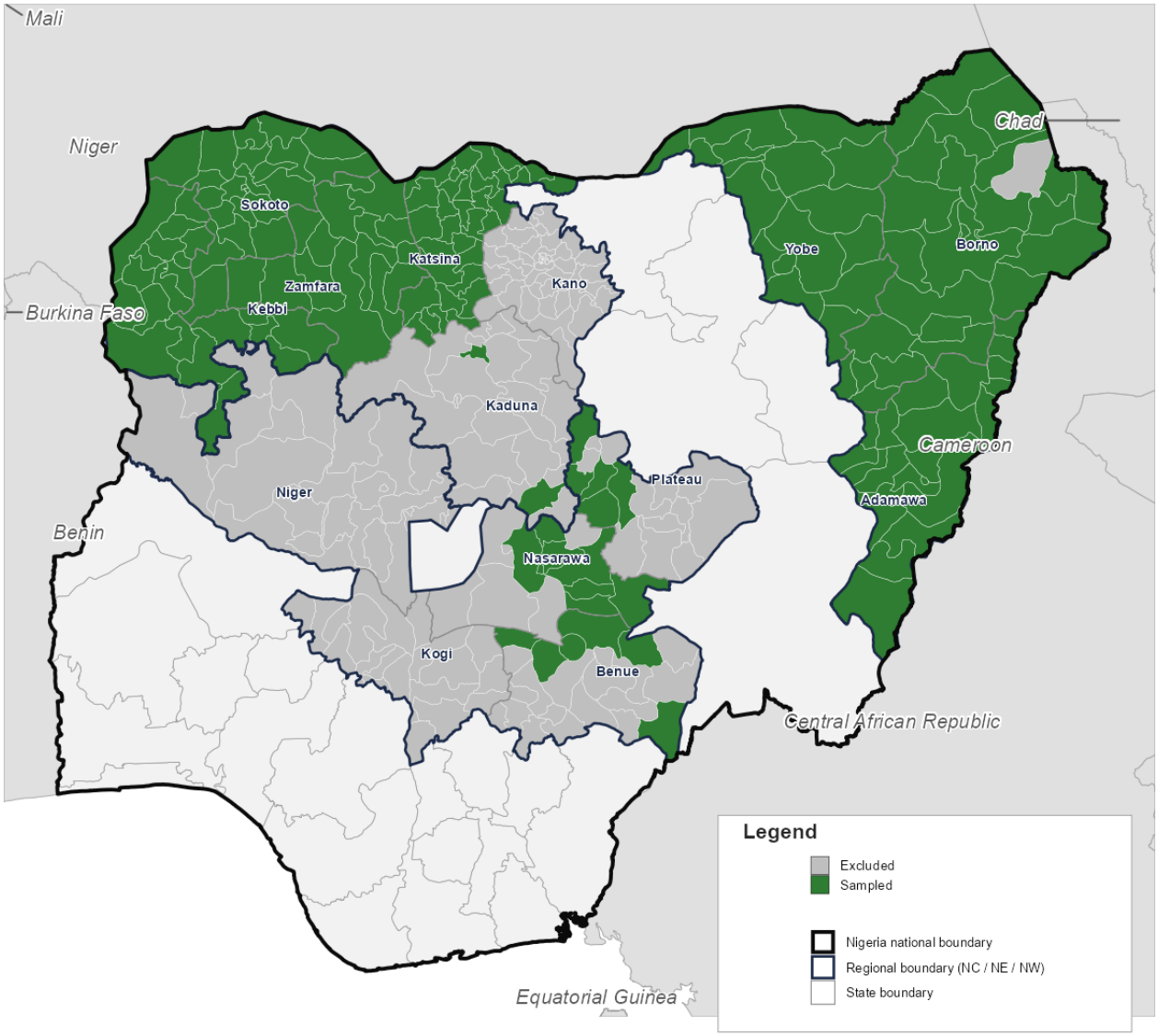


Figure 2: Partner coverage map – confirmed sampling frame by LGA: LGAs with confirmed partner coverage ("Sampled," green) versus LGAs excluded from the working sample ("Excluded," grey), against Nigeria's national boundary, the three assessment regions (North Central / North East / North West), and state boundaries

3.7 Data Processing & Analysis

All survey data will be entered into KoBo Collect and uploaded daily. Daily data cleaning will be conducted following IMPACT's Data Cleaning Minimum Standards Checklist, with cleaning logs shared with field teams to verify flagged data and inform enumerator debriefing. Cleaned household survey data will be analysed using R, applying design weights derived from each household's cluster and household-level selection probabilities (see **Annex 1**, **Section A1.7**) to correct for unequal probabilities of selection, including cases where a hexagon was selected more than once (combined into one cluster with a larger quota).

Data rules. An interview counts as achieved when it is complete, matched to a sampled point and not removed under the cleaning rules. Interviews are removed only for a recorded duration under 20 minutes, absence of consent, or a duplicate

household or unrecoverable sampling information. Interviews collected in an area that later becomes inaccessible remain in the data.

Quantitative analysis will be conducted at Admin-2 (LGA) level, disaggregated by population type (Non-IDP/IDP) where sample sizes allow, and feeds into the IMPACT Multi-Sector Needs Index (MSNI), which classifies households into severity categories (None/Minimal, Stress, Severe, Extreme) based on the highest sectoral severity experienced by the household, supporting intersectoral analysis of compounding needs. Findings will be further disaggregated by sex and age of household head, disability status (using the Washington Group Short Set on Functioning), and rural/urban location, subject to sample size allowing indicative disaggregation.

Precision and aggregation. Each stratum's margin of error will be calculated from its achieved interviews at 90% confidence (p = 0.5), with a finite-population correction on its accessible households and a cluster design effect (ICC 0.06) based on achieved cluster sizes. LGA and state figures will be aggregated from strata, each weighted by its share of accessible households, and each aggregate will report the share of households it represents.

3.8 Limitations

The assessment's design and implementation are subject to a number of limitations, summarised below. A fuller technical discussion of these and related design considerations – including strata-level detail and the specific corrective measures applied – is provided in **Annex 1, Section A1.4**.

- **Certain areas were excluded from the sampling universe entirely.** A buffer zone along Nigeria's international borders, and areas reported as inaccessible by data-collection partners, were excluded from sampling before the frame was built; findings therefore do not extend to these excluded areas.
- **Confirmed partner coverage further narrows the assessed area.** Independent of the sampling universe exclusions above, coverage is limited to LGAs where at least one partner has confirmed capacity to collect data: North East is near-complete (64 of 65 LGAs), North West is partial (94 of 159 LGAs), and North Central is very limited (18 of 99 LGAs). This is an operational coverage gap, not a precision limitation, and applies uniformly to Non-IDP and IDP strata within a given LGA. North Central findings in particular will be reported at LGA level only, not as state- or regional-level estimates. See **Annex 1, Section A1.6** for the confirmed LGA-level detail.
- **Representativity is designed at LGA level only.** What state figures represent depends on confirmed partner coverage within each state. Coverage now varies substantially by state: several states have full LGA coverage and support genuine state-level representative reporting for the relevant population type (Non-IDP and/or IDP), while for states with partial coverage, state figures will combine the covered LGAs only and be reported with the share of the state's households they represent, and states with no coverage are not assessed. The full state-by-state, population-type breakdown is set out in **Section 3.6** and **Annex 1 (A1.6).** LGA-level findings remain the assessment's primary designed unit of analysis; state-level aggregates represent the covered population only, and each will be reported with the share of the state's households it represents. This will be indicated transparently throughout all analysis and report findings.
- **Data collection falls within the seasonal lean period.** Fieldwork is expected to take place during the lean season for this region, when household food stocks and income sources are typically at their most constrained[9]. Indicators related to Food Security and Livelihoods, and Nutrition, are therefore likely to reflect this seasonal low point rather than conditions across a full year, and should not be read as representative of year-round severity for related sectors.
- **Building footprints are an imperfect proxy for household locations.** For Non-IDP clusters, household selection relies on satellite-derived building footprints, which can undercount households in areas affected by structural damage, abandonment, or dense/informal construction; a small number of clusters – concentrated in conflict-affected North East LGAs – required a design adjustment to reach target precision as a result (see **Annex 1**).
- **IDP household counts are DTM estimates.** The household figures used for IDP selection probabilities and design weights are IOM DTM site estimates at the time of sampling; the interview target for each cluster does not depend on them. In strata drawn only at hexagon level, the surveyed site represents all DTM sites in its hexagon (see **Section 3.5**).
- **A small number of clusters yielded fewer households than targeted.** Where a cluster's pool of eligible households (buildings or DTM-reported site population) was smaller than the target, the achieved sample for that cluster was capped at what was genuinely available rather than padded artificially – padding would require either re-interviewing households or drawing households from outside the cluster's defined boundary, both of which would compromise the integrity of what that cluster is designed to represent – this affects 66 of 3,428 working clusters (1.93%). Of these, only the 53 Non-IDP clusters translate into an actual interview shortfall – IDP clusters

below target still deliver their full planned interview count regardless of the DTM population estimate. The resulting shortfall is 193 interviews against a working assessment total of 31,559 (0.6%), which does not materially affect stratum-level representativeness.

- **Possible response inflation.** Enumerators are trained to make clear that no assistance will follow directly from participation in the survey, but respondents may still have an incentive to overstate need in the hope of influencing future assistance. This risk cannot be fully eliminated through survey design and should be considered when interpreting self-reported severity indicators.
- **Possible gaps in field supervision of partner-led implementation.** Given the **wide coverage and the large number of partners contributing to the data collection, there could be** some reduction in direct day-to-day oversight. This is mitigated through the training-of-trainers cascade, daily data checking and cleaning-log feedback loops described in **Section 3.7**, and joint FACT–IMPACT accountability for supervising data collection (see Roles and Responsibilities, **Section 5**).
- **Indicative results and potential bias for refugees' sample:** all results will be considered as indicative by population and by LGA, no result will be representative. The quotas were defined according to the size of population in each LGA, and, quotas filling is subject to network bias, they will be completed not by random selection.
- **MSNA Light is not a probability sample.** In the four Borno Non-IDP strata covered by MSNA Light, collection is limited to the main settlement (Abadam, Guzamala, Nganzai) or to the accessible wards (Ngala), and compliance with the selected points cannot be verified. Results are reported by LGA only, are not weighted, and cannot be aggregated or treated as representative of the LGA.
- **Estimates represent the accessible population.** Findings for a stratum describe the households in areas reported accessible, which may change during data collection. Each LGA or state aggregate will state the share of households it represents.
- **Access and partner changes.** Replacement clusters come from a stratum's remaining accessible pool and may differ from the originally selected locations, and moving an LGA between partners may introduce team effects within it.

4. Key ethical considerations and related risks

The proposed research design meets / does not meet the following criteria:

The proposed research design…	*Yes/ No*	*Details if no (including mitigation)*
… Has been coordinated with relevant stakeholders to avoid unnecessary duplication of data collection efforts?	Yes	
… Respects respondents, their rights and dignity (*specifically by: seeking informed consent, designing length of survey/ discussion while being considerate of participants' time, ensuring accurate reporting of information provided*)?	Yes	
… Does not expose data collectors to any risks as a direct result of participation in data collection?	No	Enumerators will operate in active conflict-affected and insecure areas; access and security assessments, do-no-harm briefings, and real-time guidance from security focal points will be applied, with movement adjusted or suspended as needed. Enumerators will be trained on how to react in certain situations. All security risks will be considered to ensure the safety and wellbeing of all personnel involved in data collection. An inaccessible area can be defined throughout data

		collection due to a range of indicators, such as security concerns, and therefore this area will not be accessed, and a new replacement cluster will be identified.
… Does not expose respondents / their communities to any risks as a direct result of participation in data collection?	No	GPS coordinates and building identifiers are collected to support field navigation; these are aggregated/removed from the shared dataset following IMPACT SOPs for management of personally identifiable information.
… Does not involve collecting information on specific topics which may be stressful and/ or re-traumatising for research participants (both respondents and data collectors)?	No	The questionnaire includes questions on displacement, protection incidents, and vulnerability; risk is mitigated through careful phrasing, referral pathways for GBV/protection/mental health, and the option to decline to answer.
… Does not involve data collection with minors i.e. anyone less than 18 years old?	Yes	
… Does not involve data collection with other vulnerable groups e.g. persons with disabilities, victims/ survivors of protection incidents, etc.?	No	Given random household selection, members of vulnerable groups may be respondents; enumerators are trained on referral pathways and respondents may decline to answer any question.
… Follows IMPACT SOPs for management of personally identifiable information?	Yes	

5. Roles and responsibilities

Table 4: Description of roles and responsibilities

Task Description	Responsible	Accountable	Consulted	Informed
Research design	*Senior Assessment Officer*	*Research Manager*	*Country Coordination, HQ, NIF partners, FACT*	*RDDU*
Supervising data collection	*FACT Foundation & Senior Data Officer*	*Research Manager*	*Country Coordination, Research Manager*	*RDDU*
Data processing (checking, cleaning)	*Senior Data Officer, Senior Assessment Officer & FACT Foundation*	*Research Manager*	*Country Coordination, Research Manager*	*HQ Program*
Data analysis	*Senior Data Officer, Senior Assessment Officer & FACT Foundation*	*Research Manager*	*Country Coordination, HQ, Research Manager*	*HQ Program*
Output production	*Senior Assessment Officer & FACT Foundation*	*Research Manager*	*Country Coordination, Research Manager*	*RRU; HQ Program*
Dissemination	*Senior Assessment Officer & FACT Foundation*	*Research Manager*	*Country Coordination, Research Manager*	*HQ Comms; NIF Coordination, NGOs*
Monitoring & Evaluation	*Senior Assessment Officer & FACT Foundation*	*Research Manager*	*Country Coordination, NIF partners,*	*HQ Comms, RRU*
Lessons learned	*Senior Assessment Officer & FACT Foundation*	*Research Manager*	*Country Coordination, NIF partners, ECHO*	*HQ Program*

Responsible: *the person(s) who executes the task*

Accountable: *the person who validates the completion of the task and is accountable of the final output or milestone*

Consulted: *the person(s) who must be consulted when the task is implemented*

Informed: *the person(s) who need to be informed when the task is completed*

6. Data Analysis Plan

Available on the IMPACT Document Repository platform at this link.

7. Data Management Plan

Administrative Data				
Research Cycle name	*NGA2605*			
Project Code	*35 BMH & 35BMF*			
Donor	*ECHO*			
Project partners	*FACT Foundation, Nigeria International NGO Forum (NIF)*			
Research Contacts	*Glenn Norgbey – glenn.norgbey@impact-initiatives.org* *Lina Camperos – lina.camperos@impact-initiatives.org* *Jack Philpott – jack.philpott@impact-initiatives.org* *Emmanuel Atam – atam@factfoundation-int.org*			
Data Management Plan Version	*Date: 13/07/2026*		*Version: 1.0*	
Related Policies	NA			
Documentation and Metadata				
What documentation and metadata will accompany the data? *Select all that apply*	X	Data analysis plan	X	Data Cleaning Log, including: X Deletion Log X Value Change Log
	□	Code book	X	Data Dictionary
	□	Metadata based on HDX Standards	□	[Other, Specify]
Ethics and Legal Compliance				
Which ethical and legal measures will be taken?	X	Consent of participants to participate	□	Consent of participants to share personal information with other agencies
	□	No collection of personally identifiable data will take place	X	Gender, child protection and other protection issues are taken into account
	X	All participants reached age of majority		[Other, Specify]
Who will own the copyright and Intellectual Property Rights for the data that is collected?	*IMPACT Initiatives*			
Storage and Backup				
Where will data be stored and backed up during the research?	X	IMPACT Kobo Server	□	Other Kobo Server: *[specify]*
	□	IMPACT Global Physical / Cloud Server	□	Country/Internal Server
	X	On devices held by IMPACT staff	□	Physical location *[specify]*
	□	[Other, Specify]		

Which data access and security measures have been taken?	□	Password protection on devices/servers	X	Data access is limited to IMPACT staff
	□	Form and data encryption on data collection server	X	Partners signed an MoU if accessing raw data
	□	[Other, Specify]		

Kobo Access Rights		
Kobo Access	Person	Account Name
View Form	*Jack Philpott* *Arnold Kirui*	*akirui* *jackphilpott*
View and Edit Form	*Jack Philpott* *Arnold Kirui*	*akirui* *jackphilpott*
View Form and Submit Data	*Jack Philpott* *Arnold Kirui* *Data collection partners*	*akirui* *jackphilpott* factsupport
Download Data	*Arnold Kirui*	*akirui*

Raw Data Access Rights		
Raw Data Access	Reason	Person
Accountable	Accountable	Arnold Kirui
Access	Data cleaning and verification, GIS: choropleth maps using GPS points	Jack Philpott Arnold Kirui

Preservation				
Where will data be stored for long-term preservation?	X	IMPACT Global Cloud / Physical Server	□	OCHA HDX
	□	IMPACT Country Server	□	[Other, Specify]
Data Sharing				
Will the data be shared publicly?	X	Yes	□	No, only with mandating agency / body
Will all data be shared?	□	Yes	X	No, only anonymized and cleaned data will be shared
	□	No, [Other, Specify]		
Where will you share the data?	X	IMPACT Resource Centre	□	OCHA HDX
	X	Humanitarian Response	□	[Other, Specify]
Data protection risk assessment				
Have you completed the Indicators Risk Assessment table below?	X	Yes	□	No, no information that potentially allows identification of

				individuals is to be collected.

Risk indicator	Type of identification risk	Disclosure implications	Benefits	Class	Required mitigation
GPS coordinates / building-footprint UUIDs (Non-IDP & IDP frames)	*Identification of household location*	*Could enable identification of specific households/individuals by third parties if the raw sampling file is disclosed*	*Enables field navigation and resampling*	*B1*	*Coordinates/UUIDs removed or aggregated to hexagon/LGA level before any sharing beyond the direct field/data team; raw file access restricted to IMPACT/FACT data team*
Displacement history / protection incident responses	*Identification of protection-sensitive circumstances*	*Potential distress, stigma, or safety risk if linked back to an identifiable household*	*Enables understanding of protection needs and referral gaps*	*B1*	*Responses anonymized before sharing; referral pathways offered at point of collection; option to decline to answer*
HH member names	*Identification of household members*	*Loss of privacy; potential target of armed actors given conflict context*	*Supports data cleaning / follow-up verification*	*B1*	*Deleted directly after verification/cleaning, per IMPACT SOPs*
Refugee status / country of origin (where applicable)	*Identification of refugee/asylum status*	*Potential risk to individual safety, protection status, or access to services if disclosed to host-government or security actors*	*Enables comparative host vs. refugee analysis*	*B2*	*Access restricted; refugee status not cross-tabulated with identifying variables in shared outputs; see also Section 4 comment on refugee-status protection gap*

Responsibilities	
Data collection	FACT Foundation and partner enumerators
Data cleaning	*Arnold Kirui – Senior Data officer*
Data analysis	*Arnold Kirui – Senior Data officer*
Data sharing/uploading	*Jack Philpott- Senior Assessment Officer, Lina Camperos - Research Manager*

8. Monitoring & Evaluation Plan

IMPACT Objective	External M&E Indicator	Internal M&E Indicator	Focal point	Tool	Will indicator be tracked?
Humanitarian stakeholders are accessing IMPACT products	Number of humanitarian organisations accessing IMPACT services/products Number of individuals accessing IMPACT services/products	# of downloads of x product from Resource Centre	Country request to HQ	User_log	X Yes
		# of downloads of x product from Relief Web	Country request to HQ		□ Yes
		# of downloads of x product from Country level platforms	Country team		□ Yes
		# of page clicks on x product from IMPACT global newsletter	Country request to HQ		□ Yes
		# of page clicks on x product from country newsletter, sendingBlue, bit.ly	Country team		X Yes
		# of visits to x webmap/x dashboard	Country request to HQ		□ Yes
IMPACT activities contribute to better program implementation and coordination of the humanitarian response	Number of humanitarian organisations utilizing IMPACT services/products	# references in HPC documents (HNO, SRP, Flash appeals, Cluster/sector strategies)	Country team	Reference_log	*NA*
		# references in single agency documents			*Nigeria International NGO Forum (NIF) policy papers*

Humanitarian stakeholders are using IMPACT products	Humanitarian actors use IMPACT evidence/products as a basis for decision making, aid planning and delivery Number of humanitarian documents (HNO, HRP, cluster/agency strategic plans, etc.) directly informed by IMPACT products	Perceived relevance of IMPACT country-programs Perceived usefulness and influence of IMPACT outputs Recommendations to strengthen IMPACT programs Perceived capacity of IMPACT staff Perceived quality of outputs/programs Recommendations to strengthen IMPACT programs	Country team	Usage_Feedback *and* Usage_Survey template	*Usage survey to be conducted at the end of the research cycle related to all outputs, targeting at least 10 partners*
Humanitarian stakeholders are engaged in IMPACT programs throughout the research cycle	Number and/or percentage of humanitarian organizations directly contributing to IMPACT programs *(providing resources, participating to presentations, etc.)*	# of organisations providing resources (i.e.staff, vehicles, meeting space, budget, etc.) for activity implementation # of organisations/clusters inputting in research design and joint analysis # of organisations/clusters attending briefings on findings;	Country team	Engagement_log	X Yes X Yes X Yes

Annex 1: Additional details on methodology

A1.1 Sampling frame construction — technical detail

The host population layer is WorldPop's constrained gridded population estimate for Nigeria (100m resolution, 2026 projection, release R2025A). A grid cell – for either population layer – is retained in the sampling frame only if its estimated household count exceeds 5 (equivalent to roughly 30 people, using an assumed average household size of 6). Cells at or below this threshold are treated as having no meaningful population and are dropped before stratification; the same threshold is applied identically to the host and IDP layers.

Stratifying at Admin-2 level – the level the assessment reports findings against – ensures the sample is spread across all LGAs, each with its own target, rather than concentrating in a small number of high-population districts.

Border-buffer and inaccessible-area exclusions. Two separate rules define the accessible sampling universe, both developed in consultation with the data-collection partners. First, a buffer zone was excluded along Nigeria's international borders with all four neighbouring countries: 20 km along the border with Niger in the North East, and 5 km along the borders with Chad, Cameroon and Benin and along the border with Niger in the North West. This was included due to the acknowledgement that it is common that many areas within a given distance to an international border can be insecure, and therefore this measure was taken for the safety of field teams. The wider buffer along the Niger border in the North East reflects an initial accessibility assessment, given the desert-like landscape that makes field operations very challenging and lowers the likelihood that targeted populations would be found or accessible; in the North West this was revised to 5 km following further localised verification of accessibility. Second, Admin-3 areas that data-collection partners reported, for the LGAs they cover, as inaccessible or as not currently existing as functioning settlements were excluded entirely. Partners will continue to report access at ward and cluster level during data collection (see **Section 3.5**), and the accessible area will be updated

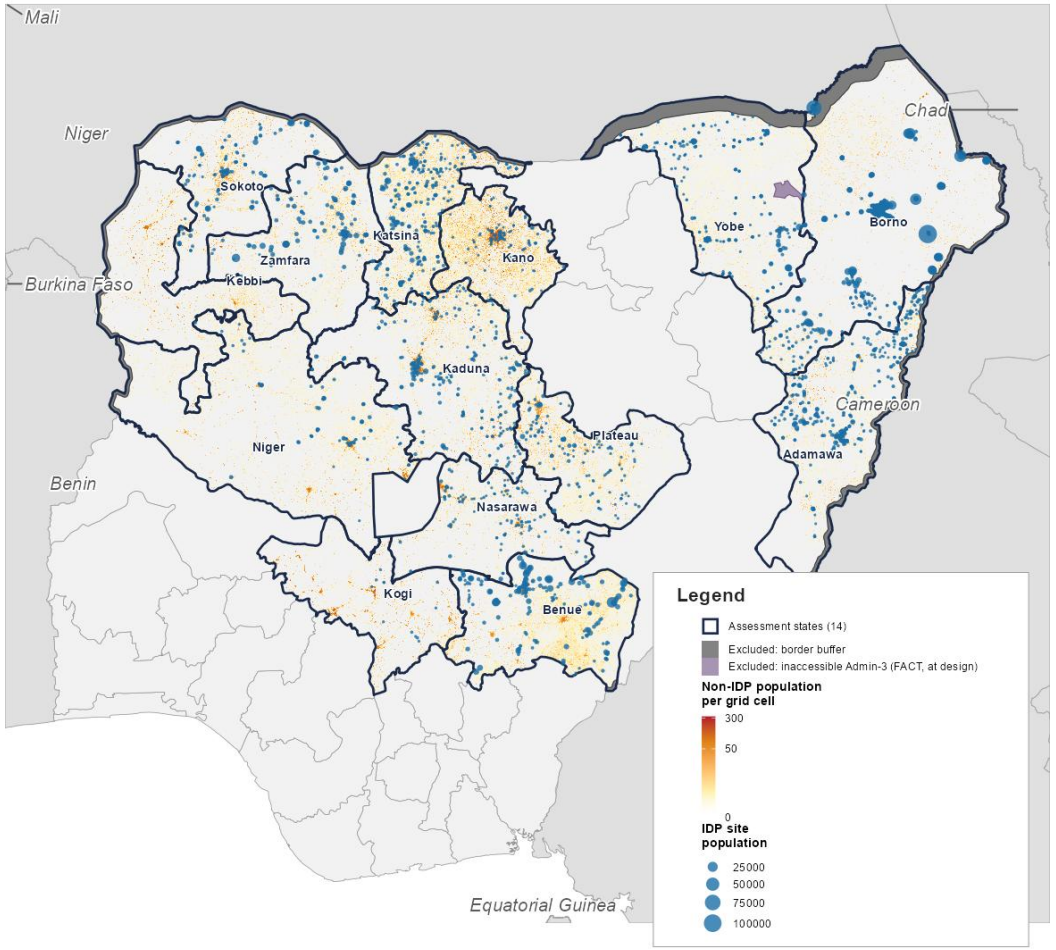


Figure 3: Distribution of population by type — Non-IDP population density, IOM DTM IDP sites (scaled by population), and areas excluded from the sampling universe

accordingly. Wards inside a buffer may be re-admitted where a partner confirms access.

Administrative boundary coverage. The nationally standard ward-level (Admin-3) administrative boundary dataset is only officially available for the North East region. A secondary, nationally complete ward boundary source was used as the primary basis for ward-level attribution across all three regions, with the official dataset retained as a secondary cross-reference in the North East specifically.

A1.2 Stage 1: primary sampling unit selection — technical detail

PPS selection was implemented as a systematic sample with a random starting point: grid cells within a stratum were placed in a fixed order, a random starting point was chosen along the cumulative population total for that stratum, and clusters were then selected at fixed population intervals along that ordering. Because the interval is fixed while the population of individual grid cells varies, a single very large or densely populated cell can occasionally be selected more than once within the same stratum. Where this happened, the repeated selections were combined into a single cluster carrying a proportionally larger household quota, rather than being treated as two separate cluster visits to the same physical location.

A fixed random seed was used for this Stage 1 selection, so that, given the same input population data, the exact set of selected clusters can be reproduced — an important property for an assessment that may need to demonstrate its sample was drawn consistently and without manual interference.

A1.3 Stage 2: household selection — technical detail

Non-IDP clusters. A building footprint is eligible if its detection confidence score is at least 0.75 and its footprint area is between 12m² and 1,000m². The lower bound excludes small non-residential fragments (outbuildings, latrines, storage structures); the upper bound excludes very large structures — warehouses, markets, institutional buildings — unlikely to be a single household's residence.

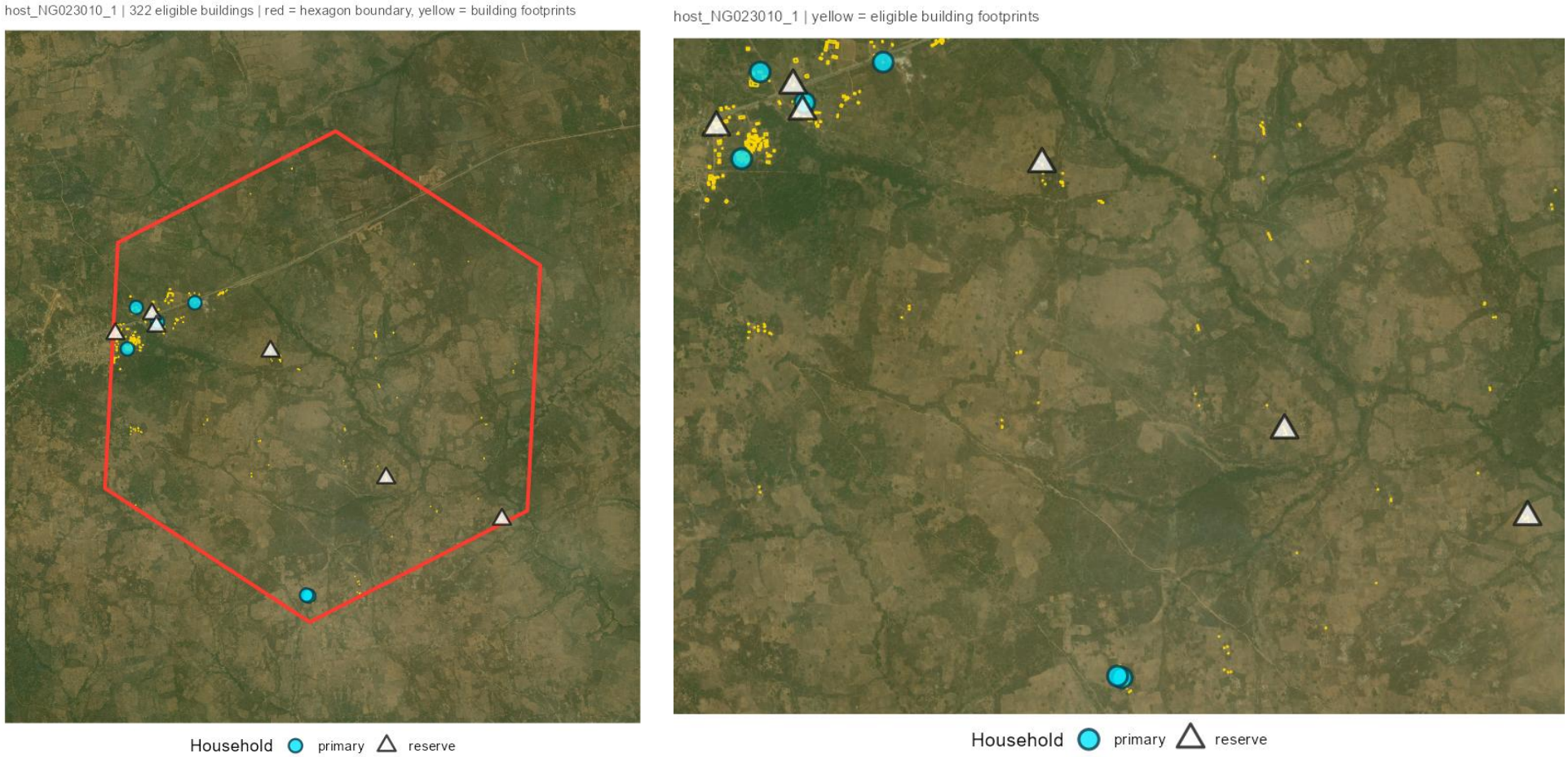


Figure 4: Example Non-IDP cluster, with close-up of selected households — hexagon boundary, every eligible building footprint within it, the six primary and six reserve households drawn from that pool, and a close-up view against nearby buildings

A small number of selected grid cells contained no building footprint meeting the eligibility criteria at all — typically very sparsely built-up or marginal locations. Rather than leaving these clusters empty, each was reallocated to a different, previously unselected grid cell within the same stratum, drawn using the identical population-proportional selection method as the original Stage 1 draw.

IDP clusters. Field teams always attempt full household listing first, at the site's recorded DTM GPS point, followed by automatic RNG-based selection within the data collection tool — the same procedure used for host-community sites, differing only in how the listing is bounded (the visible extent of the camp, rather than informant-defined settlement membership). Listing is expected to succeed at the great majority of camps. Both approaches produce the same underlying record structure — one row per planned interview, primary or reserve, each carrying its selection probabilities and full administrative attribution down to ward level — so that Non-IDP and IDP records can be analysed together as a single dataset despite having been generated through two different field procedures.

Fallback method. Where field teams determine that a full listing is not feasible — a judgement made on arrival, not pre-determined by this document — selection instead uses a random walk: starting from a fixed point, proceeding in a direction assigned in advance from a randomised bearing table (not chosen in the field), and interviewing every n-th household at a fixed interval agreed with the field teams until reaching six primary households; the walk continues for a further set number of households beyond the target to form the ranked reserve list, using the same interval rule.

Backup starting point for in-camp clusters. Every in-camp IDP cluster has a second GPS point, used only if the fallback walk is triggered. The DTM-recorded point often marks a registration desk, distribution point or management office rather than a location representative of the camp, and a walk radiating from it risks over-sampling households near that point. For the largest camps, the backup point was randomly placed within an approximate camp extent delineated from satellite imagery; for all other camps, and wherever imagery did not allow reliable delineation, it was randomly placed within a 300 m radius of the DTM point.

Limitation: the fallback method is not a full random draw. Unlike the full-listing-plus-RNG method used by default across this design, the fallback walk is a systematic rather than simple random sample: it assumes household characteristics are not meaningfully correlated with distance or direction from the starting point, an assumption that does not always hold and can under-represent households at a camp's periphery or in less accessible areas. Because this method is intended as an infrequent fallback rather than the default, its overall impact on the sample is expected to be limited, but any clusters completed using the fallback method are flagged in the dataset so their contribution can be reviewed separately during analysis if needed.

Host-community household listing. For IDP sites where the DTM Population Category records households as dispersed in a host community rather than in-camp, the camp-extent bounding used for in-camp sites is not used; unlike in-camp sites, there is no single bounded location that can be relied on to contain the great majority of the recorded caseload. Field teams instead approach the site's chief or head of settlement on arrival and request a full listing of households they recognise as belonging to the displaced population of that settlement. Where the settlement comprises multiple distinct named areas or neighbourhoods, teams ask for this listing from a contact within each area rather than from a single informant, and pool the resulting lists before selection. The random selection of six primary households, plus a ranked reserve list, is then generated automatically within the data collection tool from the pooled list, rather than performed manually in the field.

Technical detail. Ahead of finalising this method, every host-community IDP site in the sampling frame (1,099 sites) was cross-checked against two feasibility indicators: the surrounding host-population density, drawn from the same gridded density layer used to construct the Non-IDP sampling frame, measured within a fixed radius around the site's GPS point; and the site's own DTM-recorded caseload (number of households). Neither measure on its own cleanly separates a distinct "urban" subgroup from the rest: caseload size

ranges from 5 to 6,077 households (median 79), and surrounding population density ranges from near-zero to over 23,000 people/km² (median approximately 1,500 people/km²), with the two only moderately correlated. Using a combined threshold of the 90th percentile of density or 150 households — deliberately conservative starting points — 406 of the 1,099 sites (37%) would be flagged as potentially difficult for a single-informant listing; a stricter threshold (95th percentile density and 200 households, both conditions required) narrows this to 18 sites. Flagged sites concentrate in Zamfara, Benue, Borno and Adamawa States, with no clear pattern distinguishing rural from urban LGAs. Given this lack of a clean dividing line, the multi-area listing instruction (rather than a separate, urban-specific method) was adopted for all host-community sites; the 18 sites meeting the stricter combined threshold are separately flagged for field coordinators as warranting closer supervision and a larger reserve list.

Shuwari-Kaleri Housing Unit Camp (Jere, Borno) | 3,305 hh recorded | red = Stage 1 hexagon boundary (clipped to the admin-2 boundary near this site, hence the irregular shape)

idp_NG008013_17 | backup point used only if the Tier 2 fallback walk is triggered



Figure 5: Map showing example cluster GPS for the in-camp IDP data collection method

Rugar Tsara (Bindawa, Katsina) | 49 hh recorded

idp_NG021005_2 | boundary follows visible rooftop cluster only – not a survey or GPS boundary

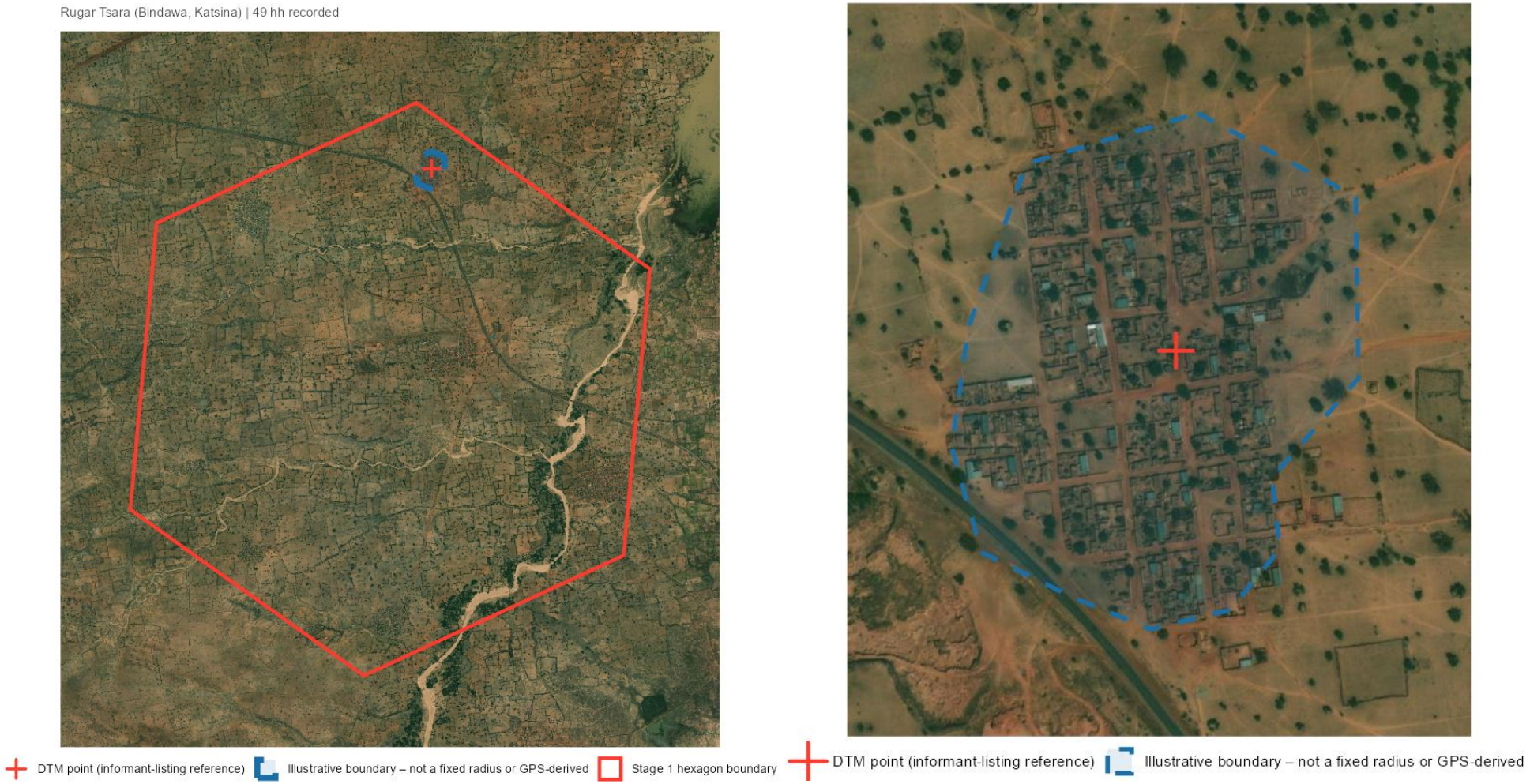


Figure 6: Map showing example cluster GPS for the host-community IDP data collection method

A1.4 Known limitations and edge cases

See **Section 3.8** for a summary of the limitations most relevant to interpreting findings.

- **Repeated cluster selection.** In strata where population is concentrated in a small number of very large grid cells, the same cell can be selected more than once by the systematic PPS procedure. Where this occurred, it was treated as a single cluster with a proportionally larger household quota rather than two separate field visits.
- **Zero-eligible-location clusters (Non-IDP).** A small number of Non-IDP clusters had no eligible building footprint at all and were reallocated to a different location within the same stratum, using the same selection method as the original draw. This does not affect the overall stratum sample size or the statistical properties of the design.
- **Below-target clusters.** A cluster is flagged as below-target when fewer eligible households were available in it than the six-household target. On the coverage-confirmed working sample, this affects 66 of 3,428 clusters (1.93%) — 53 Non-IDP and 13 IDP. These clusters take everything genuinely available rather than being padded artificially and are flagged in the dataset for review or field supplementation as needed. Only the 53 Non-IDP cases translate into an actual interview shortfall, since IDP clusters below target still deliver their full planned interview count regardless of the DTM population estimate; the resulting shortfall is 193 interviews against the working assessment total of 31,559 (0.6%), which does not materially affect stratum-level representativeness.
- **Non-IDP strata in below-targeted shortfall: identified shortfall, corrected.** For every Non-IDP stratum, the calculated target sample size is at least 96 households. In 28 of the 323 Non-IDP strata, enough clusters were individually below-target that the expected sample fell short of its own target; these 28 span nine states (Benue, Borno, Kebbi, Kogi, Nasarawa, Niger, Plateau, Yobe, Zamfara), most concentrated in – but not limited to – Borno's conflict-affected North East LGAs (15 of the 28), most plausibly because satellite-derived building footprints undercount real households in areas where structures have been destroyed, abandoned, or not rebuilt since displacement. Only 2 of the 28 (Mafa and Ngala) genuinely exceeded the study's 10% margin-of-error threshold before correction; the rest were already within tolerance. Each affected stratum received the minimum number of brand-new supplementary clusters needed to close its own specific gap – at the standard six households per cluster, not a larger one – for 254 additional interviews combined; this replaces an earlier approach (superseded on 22 July 2026) that instead raised cluster size to seven for a hand-picked list of 10 conflict-affected LGAs, which would have inflated the design effect for those strata without addressing the other 18 that needed the same fix.

State	LGA	ICC	DEFF	Sample before	MoE before	Sample after	MoE after
Benue	Agatu	0.06	1.3	97	9.48%	103	9.20%
Benue	Oturkpo	0.06	1.3	101	9.32%	107	9.06%
Borno	Abadam	0.06	1.3	93	9.67%	105	9.09%
Borno	Bama	0.06	1.3	97	9.51%	106	9.10%
Borno	Biu	0.06	1.3	100	9.37%	106	9.10%
Borno	Chibok	0.06	1.3	101	9.31%	107	9.05%
Borno	Dikwa	0.06	1.3	100	9.36%	106	9.09%

Borno	Guzamala	0.06	1.3	98	9.46%	104	9.18%
Borno	Gwoza	0.06	1.3	97	9.51%	103	9.23%
Borno	Kaga	0.06	1.3	95	9.60%	102	9.27%
Borno	Kala/Balge	0.06	1.3	88	9.94%	104	9.13%
Borno	Konduga	0.06	1.3	99	9.42%	105	9.14%
Borno	Mafa	0.06	1.3	79	**10.52%**	107	9.03%
Borno	Marte	0.06	1.3	88	9.98%	107	9.05%
Borno	Monguno	0.06	1.3	95	9.61%	104	9.18%
Borno	Ngala	0.06	1.3	86	**10.05%**	102	9.22%
Borno	Nganzai	0.06	1.3	92	9.76%	104	9.18%
Kebbi	Arewa-Dandi	0.06	1.3	99	9.41%	105	9.13%
Kogi	Ibaji	0.06	1.3	99	9.41%	105	9.14%
Kogi	Yagba East	0.06	1.3	100	9.37%	106	9.10%
Nasarawa	Obi	0.06	1.3	92	9.76%	104	9.18%
Nasarawa	Toto	0.06	1.3	98	9.46%	104	9.18%
Niger	Lavun	0.06	1.3	99	9.40%	105	9.12%
Plateau	Wase	0.06	1.3	101	9.32%	107	9.05%
Yobe	Bursari	0.06	1.3	93	9.71%	105	9.14%
Zamfara	Birnin Magaji	0.06	1.3	100	9.36%	106	9.09%
Zamfara	Maru	0.06	1.3	98	9.47%	104	9.19%
Zamfara	Shinkafi	0.06	1.3	97	9.50%	103	9.22%

Table 5: Before/after sample size and margin of error for the 28 corrected Non-IDP strata, following the minimal-supplementary-cluster correction

All 28 strata are now within a consistent 9.03–9.27% projected margin of error, with correction size scaled to each stratum's own shortfall (6 to 28 additional interviews, 1–5 clusters) rather than a uniform fix. ICC (0.06) and cluster size (m=6) are unchanged throughout. For context, a separate and much larger group – 129 of the assessment's 247 IDP strata – also deliver fewer than 96 households, but for an unrelated reason: their calculated target itself is below 96 because the DTM-recorded IDP population in that LGA is genuinely small, not because anything was lost between target and delivery.

- **Source-tile boundary handling (Non-IDP).** The satellite-derived building footprint dataset is delivered as several large geographic tiles that overlap slightly at their edges. A cluster whose eligible buildings fell across more than one of these pieces was, during quality assurance, found in a subset of cases to have its eligible-building pool calculated from an incomplete portion of its true buildings. This was identified and corrected prior to finalising the sample: every cluster's eligible-building pool is now consolidated across all relevant source pieces before households are drawn and weights are calculated, and the corrected frame was independently re-verified, building by building, before delivery.

- **IDP household counts are DTM estimates.** The household figure used for the within-cluster selection probability of IDP clusters is the one reported in the DTM dataset when the sample was drawn. This is addressed directly in the weighting approach below.
- **Host-community listing completeness and gatekeeping.** Household listings for host-community IDP sites depend on the knowledge and cooperation of the informants consulted (site chiefs, heads of settlement, or area-level contacts), rather than an independently verifiable structure. This carries two related risks: households not well known to, or not socially connected with, the informants consulted – including newly arrived, unregistered, or marginalised households – may be under-represented on the list and therefore have a lower chance of selection; and informants may have an incentive to under- or over-report the displaced population present, for reasons unrelated to the assessment. Enumerators are instructed to ask explicitly whether any displaced households are missing from the initial listing before proceeding to selection, as a partial mitigation, but this does not eliminate the underlying risk.
- **PSU attribution for host-community sites.** As with in-camp sites, a host-community IDP site's full recorded caseload is attributed to whichever hexagon contains its recorded GPS point, regardless of how far the settlement's actual households extend beyond that point. Field teams are not asked to make any boundary or GIS judgement to resolve this; informants are simply asked to list households they consider part of the same settlement by local social recognition, which provides a natural, if imperfect, bound broadly consistent with – though not identical to – the hexagon convention used in the design weights (**Annex 1**, **Section A1.7**).

A1.5 Excluded strata: the certainty-stratum coverage gap

As of a 23 July 2026 revision, 18 LGAs' IDP populations are excluded from the sample entirely: zero clusters, zero interviews planned. This is a deliberate HQ-approved design decision, not a data-quality issue or an execution shortfall and is documented here on its own – separately from the general limitations list above – given its direct, LGA-specific implication for what can and cannot be reported.

Why this happens. A stratum is eligible to be treated as certainty **(Section 3.5, Stage 1)** when its total household population falls below the equivalent of six clusters at the standard household-per-cluster target – 36 households – since every eligible site is included rather than a probability sample being drawn from a population too small to sample from meaningfully. Unlike a probability (PPS) stratum falling short of its target, a certainty stratum has no supplementary-cluster mechanism available to close the gap (the fix described in the previous section only applies to PPS strata): every eligible site is already included, so there is nowhere left to draw an additional cluster from. Where even full enumeration cannot resolve to the assessment's 10% margin of error, the underlying population is judged too small, relative to the assessment's precision target, for a field visit to produce anything better than indicative data. Previously (before 23 July 2026) such strata were still fielded and their findings flagged as indicative; HQ has since decided the trade-off between the field effort of visiting these sites and the reporting value of indicative-only data is not worth it, and these strata are now excluded from data collection outright rather than visited.

The rule. For every certainty-eligible stratum, the margin of error that full enumeration would deliver is projected, using the identical formula, design effect, and intra-cluster correlation assumption used throughout this document, evaluated at the maximum achievable sample (every eligible site × six households). Where that projected figure exceeds 10%, the stratum is excluded before Stage 1 cluster selection runs: none of its sites are drawn, so it contributes no clusters and no interviews to the sample. This check is fully generic, not a hand-picked list – it is re-evaluated from each stratum's own population figures every time the sample is built, so a future IOM DTM data refresh that grows the recorded IDP population in any of these 18 LGAs enough to pass the check would make that LGA eligible again without any change to the design itself.

Applying this rule to the current population data finds that all 18 of the LGAs that would otherwise have been certainty strata fail it – every one of today's certainty-eligible IDP strata is excluded; none remain in the sample. All 18 are IDP strata (there are no Non-IDP certainty strata in this design), spanning four states: 14 in Kano, 2 in Niger, and 1 each in Kaduna and Kebbi.

State	LGA	Total households (N_hh)	Sites (n_hex)	Interviews that would be delivered	Projected MoE at full enumeration
Kano	Rimin Gado	16	2	12	13.98%
Kaduna	Makarfi	18	2	12	16.08%
Kano	Gwale	19	2	12	16.88%
Kano	Dawakin Kudu	30	2	12	21.33%
Kano	Dambatta	31	2	12	21.54%
Kano	Gwarzo	10	1	6	25.52%
Kano	Makoda	10	1	6	25.52%
Kano	Rogo	11	1	6	27.07%
Kano	Dawakin Tofa	15	1	6	30.69%
Kano	Minjibir	16	1	6	31.26%
Niger	Katcha	16	1	6	31.26%
Kano	Bebeji	19	1	6	32.53%
Kebbi	Gwandu	21	1	6	33.15%
Niger	Lapai	21	1	6	33.15%
Kano	Tofa	23	1	6	33.65%
Kano	Warawa	25	1	6	34.06%
Kano	Shanono	26	1	6	34.24%
Kano	Kunchi	35	1	6	35.36%

Table 6: IDP strata excluded from the sample under the certainty-stratum projected-MoE rule

In total, these 18 exclusions remove 362 DTM-recorded IDP households across 23 sites from the design, corresponding to 138 interviews that would otherwise have been fielded (276 planned interview rows once reserve slots are counted too) — reducing the assessment's overall planned IDP sample from 19,374 to 19,236, and the total planned sample across both population groups from 52,384 to 52,246 (figures at the time of the July correction; Section 3.1 and the sample summary table give the final design).

Coverage by state. The practical effect varies considerably by state and is most severe for Kebbi: Gwandu was Kebbi's only IDP stratum, so its exclusion leaves Kebbi State with no IDP interviews planned at all under the current design — no LGA-, state-, or regional-level IDP estimate is possible for Kebbi from this sample. Before partner coverage, the other three affected states keep IDP strata: Kano 16 of its 30 IDP LGAs (14 excluded), Niger 11 of its 13 (2 excluded) and Kaduna 21 of its 22 (1 excluded) – all as active PPS strata

unaffected by this rule. After partner coverage, only Kaduna has IDP strata in the working sample (2 of 22); Kano (0 of 30) and Niger (0 of 13) have none (Annex 1, Section A1.6). No North East state has any excluded strata.

Reporting guidance. For the 18 excluded LGAs, no IDP indicator of any kind can be reported – not even as indicative – because no data will be collected there; this is a coverage gap, not a precision caveat, and should be described as such (e.g. "IDP population not directly assessed" rather than "estimate based on a small sample"). State- and regional-level IDP aggregates for Kaduna are based only on its remaining, actively sampled IDP strata and implicitly exclude the DTM-recorded population of the excluded LGAs within it. No IDP aggregate of any kind is possible for Kebbi, Kano or Niger State. Analysts producing state- or regional-level IDP totals should note this gap explicitly rather than let it pass silently as if the full DTM-recorded IDP population were represented. It is also worth noting that the excluded LGAs are, by construction, those with the smallest recorded IDP caseloads — may include some of the most isolated or hardest-to-reach IDP populations in the sampling frame. Their exclusion should therefore be read as a coverage gap concentrated among smaller, more marginal IDP populations, not a random or representative subset of the excluded regions' overall IDP caseload.

A1.6 Partner coverage and combined exclusion detail

Section 3.6 describes the partner coverage layer at a summary level. This section provides the full technical detail, including its interaction with the certainty-stratum exclusion already described in **A1.5**.

Coverage and certainty-stratum exclusion are independent mechanisms and are not mutually exclusive – an LGA can be affected by neither, either, or both. The table below gives full state-level representativity detail, computed separately for Non-IDP and IDP since certainty-stratum exclusion currently affects IDP strata only:

State	Region	Non-IDP	IDP
Adamawa	North East	Fully representative (21/21, 100%)	Fully representative (21/21, 100%)
Yobe	North East	Fully representative (17/17, 100%)	Fully representative (17/17, 100%)
Borno	North East	Partial (26/27, 96.3%)	Fully representative (21/21, 100%)
Katsina	North West	Fully representative (34/34, 100%)	Fully representative (33/33, 100%)
Sokoto	North West	Fully representative (23/23, 100%)	Fully representative (22/22, 100%)
Zamfara	North West	Fully representative (14/14, 100%)	Fully representative (14/14, 100%)
Kebbi	North West	Fully representative (21/21, 100%)	Not assessed (0/1, 0%) — see note below
Kaduna	North West	Partial (2/23, 8.7%)	Partial (2/22, 9.1%)
Kano	North West	Not assessed (0/44, 0%)	Not assessed (0/30, 0%)
Nasarawa	North Central	Partial (7/13, 53.8%)	Partial (7/13, 53.8%)
Plateau	North Central	Partial (5/17, 29.4%)	Partial (5/17, 29.4%)
Benue	North Central	Partial (6/23, 26.1%)	Partial (6/18, 33.3%)
Kogi	North Central	Not assessed (0/21, 0%)	Not assessed (0/5, 0%)

Niger	North Central	Not assessed (0/25, 0%)	Not assessed (0/13, 0%)

Kebbi's single IDP stratum (Gwandu LGA) is excluded under the existing certainty-stratum precision rule **(Annex 1, Section A1.5)** due to a very small recorded IDP population – not a coverage gap. Kebbi's Non-IDP status is unaffected.

The table below decomposes every design LGA into exactly one of four mutually exclusive categories, built directly from the underlying coverage and certainty-stratum flags:

Region	Pop type	Design LGAs	Covered, clean	Covered, certainty-excluded	Not covered, clean	Not covered, also certainty-excluded	Sum
North Central	Non-IDP	99	18	0	81	0	99
North Central	IDP	66	18	0	46	2	66
North East	Non-IDP	65	64	0	1	0	65
North East	IDP	59	59	0	0	0	59
North West	Non-IDP	159	94	0	65	0	159
North West	IDP	122	71	1	35	15	122
National	Non-IDP	323	176	0	147	0	323
National	IDP	247	148	1	81	17	247

17 LGAs nationally fall into the "not covered, also certainty-excluded" category — 14 in Kano State (Bebeji, Dambatta, Dawakin Kudu, Dawakin Tofa, Gwale, Gwarzo, Kunchi, Makoda, Minjibir, Rimin Gado, Rogo, Shanono, Tofa, Warawa), 2 in Niger State (Katcha, Lapai), and 1 in Kaduna State (Makarfi). In each case, the IDP stratum was already excluded under the certainty-stratum rule in the original design, and the LGA was separately confirmed not covered by any partner on 30 July 2026. This overlap is IDP-only; no Non-IDP stratum is currently affected by both exclusion reasons simultaneously.

Reporting guidance: for LGAs excluded on coverage grounds, no indicator of any kind can be reported, at any level of confidence – this is a coverage gap, not a precision caveat, the same distinction already drawn in A1.5 for certainty-stratum exclusions. Where the two mechanisms overlap, both explanations apply simultaneously and should be stated together rather than attributed to either cause alone.

A1.7 Weighting approach

A statistically sound design weight will be calculated and applied for every interview in the Non-IDP and IDP probability samples (MSNA Light and refugee interviews will not be weighted), taking into account the sampling methodology described in this document together with the actual, achieved outcomes of data collection — following standard practice for a stratified, two-stage cluster design. The exact weighting formula is not detailed in this document: for IDP records specifically, it depends on the field methodology for identifying

households at each site (see Section 3.5 / A1.3). Depending on the final selection method being implemented for individual IDP households — full listing plus RNG as the default at both in-camp and host-community sites, with a fallback random walk for in-camp sites where listing proves infeasible — the within-cluster selection probability, and therefore the final design weight, remains pending and will be calculated at the end of data collection.

Coverage gap from excluded strata. One point holds regardless of the weighting approach: neither the 18 certainty-stratum-excluded IDP strata (Section A1.5) nor the far larger set of LGAs excluded on partner-coverage grounds (147 Non-IDP and 81 IDP strata nationally — see Annex 1, Section A1.6) will contribute any records to the dataset, so no weighting adjustment can recover their population share in any state-, regional-, or national-level aggregate. This is a genuine coverage gap, not something a weighting scheme corrects for, and it is now the dominant source of non-coverage in this design — substantially larger than the certainty-stratum exclusions alone.

A1.8 Full stratum-level sampling frame

Table 7 below sets out the stratum-level detail underlying the design described above: for each LGA and population group, the households in the accessible sampling frame, the planned clusters and sample, and the projected margin of error. All strata share the same design parameters — an intra-cluster correlation of 0.06 and six households per cluster, giving a design effect of 1.3 — and the before/after sample sizes of the 28 corrected Non-IDP strata are given in Table 5 (Section A1.4).

Region	State	LGA	Non-IDP households	Non-IDP clusters	Non-IDP sample	Non-IDP MoE	IDP households	IDP clusters	IDP sample	IDP MoE	Total sample
North Central	Benue	Agatu	11,216	16	103	9.20%	4,892	7	102	9.19%	205
North Central	Benue	Guma	35,456	17	102	9.27%	22,077	9	102	9.26%	204
North Central	Benue	Gwer West	15,747	12	102	9.25%	11,197	6	102	9.24%	204
North Central	Benue	Kwande	69,179	17	102	9.28%	2,247	7	102	9.07%	204
North Central	Benue	Logo	44,236	16	102	9.27%	5,984	8	102	9.21%	204
North Central	Benue	Makurdi	116,862	13	102	9.28%	13,570	11	102	9.25%	204
Benue total			**292,696**	**91**	**613**		**59,967**	**48**	**612**		**1,225**
North Central	Nasarawa	Akwanga	36,016	12	102	9.27%	122	7	60	8.67%	162
North Central	Nasarawa	Awe	30,751	17	102	9.27%	461	7	90	8.88%	192
North Central	Nasarawa	Keana	12,861	15	102	9.25%	609	3	90	9.13%	192
North Central	Nasarawa	Kokona	35,861	17	102	9.27%	112	4	60	8.29%	162
North Central	Nasarawa	Lafia	100,493	14	102	9.28%	694	13	96	8.89%	198
North Central	Nasarawa	Nasarawa-Eggon	31,323	14	102	9.27%	247	4	78	8.80%	180
North Central	Nasarawa	Obi	25,307	17	104	9.18%	209	4	78	8.43%	182

Region	State	LGA	Non-IDP households	Non-IDP clusters	Non-IDP sample	Non-IDP MoE	IDP households	IDP clusters	IDP sample	IDP MoE	Total sample
Nasarawa total			**272,612**	**106**	**716**		**2,454**	**42**	**552**		**1,268**
North Central	Plateau	Barikin Ladi	65,537	16	102	9.28%	150	4	66	8.67%	168
North Central	Plateau	Bassa	53,820	17	102	9.28%	305	4	84	8.72%	186
North Central	Plateau	Bokkos	63,618	17	102	9.28%	557	3	90	9.06%	192
North Central	Plateau	Mangu	81,740	16	102	9.28%	2,343	6	102	9.08%	204
North Central	Plateau	Riyom	43,911	16	102	9.27%	1,215	6	96	9.19%	198
Plateau total			**308,626**	**82**	**510**		**4,570**	**23**	**438**		**948**
North East	Adamawa	Demsa	27,889	14	102	9.27%	3,420	9	102	9.15%	204
North East	Adamawa	Fufore	51,277	17	102	9.28%	1,605	8	96	9.28%	198
North East	Adamawa	Ganye	46,925	14	102	9.27%	195	4	78	8.25%	180
North East	Adamawa	Girei	38,925	12	102	9.27%	3,863	11	102	9.16%	204
North East	Adamawa	Gombi	79,135	15	102	9.28%	1,452	10	96	9.25%	198
North East	Adamawa	Guyuk	48,675	14	102	9.28%	718	8	96	8.91%	198
North East	Adamawa	Hong	28,805	17	102	9.27%	1,781	12	96	9.31%	198
North East	Adamawa	Jada	47,734	17	102	9.27%	160	3	66	8.87%	168
North East	Adamawa	Lamurde	20,842	14	102	9.26%	896	9	96	9.05%	198
North East	Adamawa	Madagali	38,424	15	102	9.27%	3,088	11	102	9.13%	204
North East	Adamawa	Maiha	16,714	16	102	9.26%	1,096	10	96	9.15%	198
North East	Adamawa	Mayo-Belwa	29,297	16	102	9.27%	321	5	84	8.80%	186
North East	Adamawa	Michika	33,686	13	102	9.27%	920	8	96	9.06%	198
North East	Adamawa	Mubi North	28,640	12	102	9.27%	2,051	6	102	9.05%	204
North East	Adamawa	Mubi South	31,757	12	102	9.27%	1,865	5	102	9.03%	204
North East	Adamawa	Numan	23,644	10	102	9.26%	3,719	8	102	9.16%	204
North East	Adamawa	Shelleng	74,308	15	102	9.28%	1,781	7	96	9.31%	198
North East	Adamawa	Song	65,038	16	102	9.28%	1,216	11	96	9.19%	198
North East	Adamawa	Toungo	14,220	14	102	9.25%	76	2	48	8.27%	150
North East	Adamawa	Yola North	68,583	5	102	9.28%	2,544	6	102	9.10%	204
North East	Adamawa	Yola South	78,598	12	102	9.28%	3,305	11	102	9.14%	204
Adamawa total			**893,116**	**290**	**2,142**		**36,072**	**164**	**1,956**		**4,098**

Region	State	LGA	Non-IDP households	Non-IDP clusters	Non-IDP sample	Non-IDP MoE	IDP households	IDP clusters	IDP sample	IDP MoE	Total sample
North East	Borno	Abadam	8,033	19	105	MSNA Light		No IDP stratum			105
North East	Borno	Askira/Uba	22,260	14	102	9.26%	2,127	9	102	9.06%	204
North East	Borno	Bama	52,570	14	106	9.10%	36,244	1	102	9.27%	208
North East	Borno	Bayo	19,669	17	102	9.26%	93	8	54	8.31%	156
North East	Borno	Biu	48,335	14	106	9.10%	7,195	8	102	9.22%	208
North East	Borno	Chibok	26,930	16	107	9.05%	3,653	11	102	9.16%	209
North East	Borno	Damboa	36,635	13	102	9.27%	25,722	9	102	9.27%	204
North East	Borno	Dikwa	22,571	14	106	9.09%	21,741	3	102	9.26%	208
North East	Borno	Gubio	53,906	17	102	9.28%	2,896	2	102	9.12%	204
North East	Borno	Guzamala	37,528	18	104	MSNA Light		No IDP stratum			104
North East	Borno	Gwoza	45,115	12	103	9.23%	31,273	2	102	9.27%	205
North East	Borno	Hawul	36,039	16	102	9.27%	4,172	9	102	9.17%	204
North East	Borno	Jere	186,589	10	102	9.28%	57,906	11	102	9.28%	204
North East	Borno	Kaga	24,270	18	102	9.27%	4,701	3	102	9.18%	204
North East	Borno	Kala/Balge	7,608	19	104	9.13%	10,983	2	102	9.24%	206
North East	Borno	Konduga	53,208	15	105	9.14%	14,702	7	102	9.25%	207
North East	Borno	Kukawa	38,504	12	102	9.27%		No IDP stratum			102
North East	Borno	Kwaya Kusar	21,065	15	102	9.26%	709	12	96	8.91%	198
North East	Borno	Mafa	12,396	20	107	9.03%	8,276	2	102	9.23%	209
North East	Borno	Magumeri	57,821	17	102	9.28%	7,621	3	102	9.22%	204
North East	Borno	Maiduguri	299,456	9	102	9.28%	35,641	7	102	9.27%	204
North East	Borno	Mobbar	24,509	17	102	9.27%		No IDP stratum			102
North East	Borno	Monguno	34,175	12	104	9.18%	41,540	3	102	9.27%	206
North East	Borno	Ngala	7,578	17	102	MSNA Light	11,326	2	102	9.24%	204
North East	Borno	Nganzai	34,094	18	104	MSNA Light		No IDP stratum			104
North East	Borno	Shani	32,823	15	102	9.27%	407	9	90	8.73%	192
Borno total			**1,243,687**	**398**	**2,689**		**328,928**	**123**	**2,076**		**4,765**
North East	Yobe	Bade	31,357	8	102	9.27%	3,846	5	102	9.16%	204
North East	Yobe	Bursari	43,887	19	105	9.14%	823	7	96	9.00%	201

Region	State	LGA	Non-IDP households	Non-IDP clusters	Non-IDP sample	Non-IDP MoE	IDP households	IDP clusters	IDP sample	IDP MoE	Total sample
North East	Yobe	Damaturu	78,795	10	102	9.28%	3,891	10	102	9.16%	204
North East	Yobe	Fika	37,695	15	102	9.27%	472	6	90	8.90%	192
North East	Yobe	Fune	79,885	16	102	9.28%	745	5	96	8.94%	198
North East	Yobe	Geidam	50,804	15	102	9.28%	2,221	4	102	9.07%	204
North East	Yobe	Gujba	33,702	15	102	9.27%	7,046	9	102	9.22%	204
North East	Yobe	Gulani	34,932	17	102	9.27%	356	8	84	8.96%	186
North East	Yobe	Jakusko	49,831	17	102	9.28%	461	12	90	8.88%	192
North East	Yobe	Karasuwa	23,199	17	102	9.26%	842	6	96	9.01%	198
North East	Yobe	Machina	1,779	11	96	9.31%	123	1	60	8.70%	156
North East	Yobe	Nangere	33,338	17	102	9.27%	486	6	90	8.93%	192
North East	Yobe	Nguru	33,823	10	102	9.27%	938	4	96	9.07%	198
North East	Yobe	Potiskum	84,106	7	102	9.28%	1,270	5	96	9.21%	198
North East	Yobe	Tarmua	37,869	17	102	9.27%	768	5	96	8.96%	198
North East	Yobe	Yunusari	19,632	17	102	9.26%	244	7	78	8.78%	180
North East	Yobe	Yusufari	22,650	16	102	9.26%	405	7	90	8.73%	192
Yobe total			**697,284**	**244**	**1,731**		**24,937**	**107**	**1,566**		**3,297**
North West	Kaduna	Jema'a	52,080	14	102	9.28%	440	4	90	8.83%	192
North West	Kaduna	Zaria	107,732	8	102	9.28%	121	4	60	8.63%	162
Kaduna total			**159,812**	**22**	**204**		**561**	**8**	**150**		**354**
North West	Katsina	Bakori	38,640	15	102	9.27%	436	3	90	8.82%	192
North West	Katsina	Batagarawa	49,976	13	102	9.28%	1,351	8	96	9.23%	198
North West	Katsina	Batsari	49,027	16	102	9.28%	3,133	6	102	9.13%	204
North West	Katsina	Baure	47,325	17	102	9.27%	306	7	84	8.73%	186
North West	Katsina	Bindawa	34,317	15	102	9.27%	481	9	90	8.92%	192
North West	Katsina	Charanchi	36,983	15	102	9.27%	598	5	90	9.12%	192
North West	Katsina	Dan Musa	28,208	16	102	9.27%	3,685	10	102	9.16%	204
North West	Katsina	Dandume	39,119	11	102	9.27%	306	2	84	8.73%	186
North West	Katsina	Danja	26,170	17	102	9.27%	223	5	78	8.58%	180
North West	Katsina	Daura	59,450	7	102	9.28%	145	3	66	8.55%	168

Region	State	LGA	Non-IDP households	Non-IDP clusters	Non-IDP sample	Non-IDP MoE	IDP households	IDP clusters	IDP sample	IDP MoE	Total sample
North West	Katsina	Dutsi	35,063	16	102	9.27%	185	3	66	9.28%	168
North West	Katsina	Dutsin-Ma	46,915	13	102	9.27%	1,229	4	96	9.19%	198
North West	Katsina	Faskari	55,048	17	102	9.28%	941	6	96	9.07%	198
North West	Katsina	Funtua	51,168	10	102	9.28%	1,317	2	96	9.22%	198
North West	Katsina	Ingawa	47,163	17	102	9.27%	45	1	36	7.07%	138
North West	Katsina	Jibia	16,332	17	102	9.26%	238	4	78	8.72%	180
North West	Katsina	Kafur	50,779	17	102	9.28%	623	5	90	9.15%	192
North West	Katsina	Kaita	35,833	15	102	9.27%	297	9	84	8.68%	186
North West	Katsina	Kankara	61,021	16	102	9.28%	1,995	5	102	9.05%	204
North West	Katsina	Kankia	35,538	15	102	9.27%	800	5	96	8.98%	198
North West	Katsina	Katsina	99,289	7	102	9.28%	1,980	6	102	9.04%	204
North West	Katsina	Kurfi	31,050	17	102	9.27%	728	6	96	8.92%	198
North West	Katsina	Kusada	25,995	16	102	9.27%	215	5	78	8.50%	180
North West	Katsina	Mai'adua	38,809	15	102	9.27%	122	2	60	8.67%	162
North West	Katsina	Malumfashi	45,958	14	102	9.27%	1,269	8	96	9.20%	198
North West	Katsina	Mani	38,586	16	102	9.27%	288	6	84	8.63%	186
North West	Katsina	Mashi	41,668	16	102	9.27%	123	4	60	8.70%	162
North West	Katsina	Matazu	29,854	16	102	9.27%	418	5	90	8.77%	192
North West	Katsina	Musawa	52,706	17	102	9.28%	1,053	8	96	9.13%	198
North West	Katsina	Rimi	38,708	16	102	9.27%	355	6	84	8.95%	186
North West	Katsina	Sabuwa	42,500	15	102	9.27%	305	3	84	8.72%	186
North West	Katsina	Safana	45,284	17	102	9.27%	1,534	7	96	9.27%	198
North West	Katsina	Sandamu	39,076	15	102	9.27%	364	2	84	8.99%	186
North West	Katsina	Zango	23,705	15	102	9.26%		No IDP stratum			102
Katsina total			**1,437,263**	**507**	**3,468**		**27,088**	**170**	**2,832**		**6,300**
North West	Kebbi	Aleiro	19,513	9	102	9.26%		No IDP stratum			102
North West	Kebbi	Arewa-Dandi	26,596	16	105	9.13%		No IDP stratum			105
North West	Kebbi	Argungu	41,676	12	102	9.27%		No IDP stratum			102
North West	Kebbi	Augie	15,649	16	102	9.25%		No IDP stratum			102

Region	State	LGA	Non-IDP households	Non-IDP clusters	Non-IDP sample	Non-IDP MoE	IDP households	IDP clusters	IDP sample	IDP MoE	Total sample
North West	Kebbi	Bagudo	56,275	17	102	9.28%	No IDP stratum				102
North West	Kebbi	Birnin Kebbi	100,673	9	102	9.28%	No IDP stratum				102
North West	Kebbi	Bunza	33,577	12	102	9.27%	No IDP stratum				102
North West	Kebbi	Dandi	14,028	17	102	9.25%	No IDP stratum				102
North West	Kebbi	Fakai	34,732	16	102	9.27%	No IDP stratum				102
North West	Kebbi	Gwandu	29,541	16	102	9.27%	Excluded (Table 6)				102
North West	Kebbi	Jega	42,982	11	102	9.27%	No IDP stratum				102
North West	Kebbi	Kalgo	17,803	13	102	9.26%	No IDP stratum				102
North West	Kebbi	Koko/Besse	36,770	13	102	9.27%	No IDP stratum				102
North West	Kebbi	Maiyama	31,719	17	102	9.27%	No IDP stratum				102
North West	Kebbi	Ngaski	35,090	16	102	9.27%	No IDP stratum				102
North West	Kebbi	Sakaba	28,352	17	102	9.27%	No IDP stratum				102
North West	Kebbi	Shanga	41,044	17	102	9.27%	No IDP stratum				102
North West	Kebbi	Suru	36,003	15	102	9.27%	No IDP stratum				102
North West	Kebbi	Wasagu/Danko	86,830	17	102	9.28%	No IDP stratum				102
North West	Kebbi	Yauri	15,217	6	102	9.25%	No IDP stratum				102
North West	Kebbi	Zuru	52,246	13	102	9.28%	No IDP stratum				102
Kebbi total			**796,316**	**295**	**2,145**		**No IDP sample**				**2,145**
North West	Sokoto	Binji	17,619	15	102	9.26%	161	2	66	8.89%	168
North West	Sokoto	Bodinga	50,849	17	102	9.28%	326	4	84	8.83%	186
North West	Sokoto	Dange-Shuni	64,811	14	102	9.28%	896	2	96	9.05%	198
North West	Sokoto	Gada	43,335	17	102	9.27%	183	3	66	9.25%	168
North West	Sokoto	Goronyo	29,670	16	102	9.27%	1,856	4	96	9.32%	198
North West	Sokoto	Gudu	10,072	16	102	9.24%	328	1	84	8.84%	186
North West	Sokoto	Gwadabawa	47,615	17	102	9.27%	534	4	90	9.02%	192
North West	Sokoto	Illela	27,372	17	102	9.27%	275	1	84	8.54%	186
North West	Sokoto	Isa	24,005	13	102	9.27%	3,088	1	102	9.13%	204
North West	Sokoto	Kebbe	26,055	17	102	9.27%	185	2	66	9.28%	168
North West	Sokoto	Kware	46,355	16	102	9.27%	635	5	90	9.16%	192

Region	State	LGA	Non-IDP households	Non-IDP clusters	Non-IDP sample	Non-IDP MoE	IDP households	IDP clusters	IDP sample	IDP MoE	Total sample
North West	Sokoto	Rabah	29,268	17	102	9.27%	1,648	4	96	9.29%	198
North West	Sokoto	Sabon Birni	39,750	16	102	9.27%	8,141	4	102	9.23%	204
North West	Sokoto	Shagari	33,870	17	102	9.27%	2,596	3	102	9.10%	204
North West	Sokoto	Silame	15,730	16	102	9.25%	686	4	96	8.88%	198
North West	Sokoto	Sokoto North	48,182	4	102	9.27%	807	3	96	8.99%	198
North West	Sokoto	Sokoto South	71,561	4	102	9.28%	644	3	90	9.17%	192
North West	Sokoto	Tambuwal	52,028	16	102	9.28%	2,518	8	102	9.10%	204
North West	Sokoto	Tangaza	26,176	16	102	9.27%	3,001	4	102	9.13%	204
North West	Sokoto	Tureta	23,917	17	102	9.27%	1,055	4	96	9.13%	198
North West	Sokoto	Wamako	111,126	12	102	9.28%	625	5	90	9.15%	192
North West	Sokoto	Wurno	30,640	14	102	9.27%	332	3	84	8.86%	186
North West	Sokoto	Yabo	25,716	15	102	9.27%		No IDP stratum			102
Sokoto total			**895,722**	**339**	**2,346**		**30,520**	**74**	**1,980**		**4,326**
North West	Zamfara	Anka	33,392	15	102	9.27%	5,067	4	102	9.19%	204
North West	Zamfara	Bakura	32,817	15	102	9.27%	1,793	6	96	9.31%	198
North West	Zamfara	Birnin Magaji	31,869	18	106	9.09%	2,149	5	102	9.06%	208
North West	Zamfara	Bukkuyum	50,939	17	102	9.28%	2,849	8	102	9.12%	204
North West	Zamfara	Bungudu	93,484	17	102	9.28%	1,487	5	96	9.26%	198
North West	Zamfara	Gummi	51,425	16	102	9.28%	2,810	3	102	9.12%	204
North West	Zamfara	Gusau	163,758	11	102	9.28%	13,101	11	102	9.25%	204
North West	Zamfara	Kaura Namoda	66,846	14	102	9.28%	2,968	8	102	9.13%	204
North West	Zamfara	Maradun	41,527	16	102	9.27%	1,153	5	96	9.17%	198
North West	Zamfara	Maru	88,230	18	104	9.19%	1,850	7	96	9.32%	200
North West	Zamfara	Shinkafi	27,506	12	103	9.22%	2,720	6	102	9.11%	205
North West	Zamfara	Talata Mafara	57,018	13	102	9.28%	2,294	6	102	9.08%	204
North West	Zamfara	Tsafe	59,484	15	102	9.28%	849	4	96	9.02%	198

Region	State	LGA	Non-IDP households	Non-IDP clusters	Non-IDP sample	Non-IDP MoE	IDP households	IDP clusters	IDP sample	IDP MoE	Total sample
North West	Zamfara	Zurmi	52,945	16	102	9.28%	3,375	4	102	9.14%	204
Zamfara total			**851,240**	**213**	**1,435**		**44,465**	**82**	**1,398**		**2,833**
Assessment total			**7,848,374**	**2,587**	**17,999**		**559,562**	**841**	**13,560**		**31,559**

Table 7: Planned sample by LGA and population group. Households are the estimated households in each stratum's accessible area at the time of the design (WorldPop population for Non-IDPs; DTM site household figures for IDPs), the population to which the stratum's projected margin of error (90% confidence) refers. "No IDP stratum": DTM records no IDP sites to sample in the LGA's accessible area. "MSNA Light": Non-IDP stratum covered by the non-probability MSNA Light component (Section 3.5), for which no margin of error is projected.