

Using Humanitarian Data to Guide Risk Analysis, Needs Assessment and Response Prioritisation in North East Nigeria

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Abstract

In North-East Nigeria in 2024, humanitarian evidence was most usable when it was timely, specific to the unit at which resources were allocated, transparent about its reference date and attached to an established decision routine. A structured documentary analysis of records published no later than 2024 finds that the government-led countrywide hazard risk analysis, developed under the leadership of the National Emergency Management Agency with technical support from UNICEF, was launched in December 2024, after the year's main prioritisation episodes; that appeal targets rested on figures labelled provisional; and that operational records contain mismatched reporting dates, competing displacement totals and derived rates that cannot be reproduced from their own tables. Recomputing published cholera figures shows that a state's priority rank moves from first to third depending on the chosen metric, so metric selection carries distributive consequences. The study reconstructs four documented decision episodes, inventories three evidence systems, audits selected indicators and records contradictory figures with the basis of their resolution. Evidence use is judged adequate where evidence fitted the decision's scale, uncertainties were recorded, criteria were stated and the rationale was documented; no episode met all four conditions in the public record. From these findings, the article derives a seven-stage evidence-to-decision chain, a case-derived diagnostic checklist with verifiable indicators that requires testing in further cases.

Keywords: humanitarian information management; evidence-to-decision; risk analysis; needs severity; displacement data; North-East Nigeria; data responsibility

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1. Introduction

Few humanitarian settings are as intensively measured as North-East Nigeria. More than a decade of armed conflict in Borno, Adamawa and Yobe states has produced an information ecosystem in which displacement tracking, multisector assessments, nutrition surveys, disease surveillance, situation reports and results dashboards circulate continuously among government agencies, United Nations entities, non-governmental organisations and donors. Yet a large body of scholarship cautions that the volume of humanitarian data is a poor proxy for its influence on decisions (Read et al., 2016; Sandvik et al., 2014). Data may arrive after a choice is made, describe a geography that does not match the unit of allocation, or carry a confidence that conceals uncertain denominators and contested definitions (Burns, 2015; Checchi et al., 2017). The relevant question is therefore not whether evidence exists, but whether it was available, interpretable and connected to a decision routine at the moment a choice was made.

The year 2024 offers an unusually instructive window on this question. In December 2024, the National Emergency Management Agency (NEMA) launched the Nigerian Hazard Countrywide Risk Analysis 2024, a seven-month exercise covering twelve hazards and presented down to Local Government Area (LGA) level, developed under NEMA leadership with technical support from UNICEF and with contributions from federal technical agencies and State Emergency Management Agencies (NEMA, 2024a, 2024b). In the same year, the North-East experienced a deepening nutrition crisis, the breach of the Alau Dam that flooded a large part of Maiduguri in September, and a cholera outbreak declared across the three most affected states in September and October (UNICEF, 2024a, 2024b, 2024c). Humanitarian planning for the year rested on an inter-agency needs and response framework whose financial requirements and funding were tracked publicly (OCHA, 2024). These developments place three evidence systems side by side: a government-led, forward-looking hazard risk analysis; an inter-agency needs and severity analysis oriented to annual planning; and a flow of operational data used for in-year response.

This article asks how these three systems were positioned to inform prioritisation decisions in 2024, how conflicting figures were presented and reconciled, and which populations and places remained least visible. It makes three contributions. First, it reconstructs four documented decision episodes from dated public records, distinguishing what was known when each choice was made from what became known later, in line with process-tracing logic (Beach & Pedersen, 2019).

Second, it audits selected indicators for definition, denominator, disaggregation, reporting lag and internal consistency, and shows through a simple sensitivity test how state priorities shift under alternative metrics. Third, it derives from the case an evidence-to-decision chain, a diagnostic checklist adapted from structured evidence-to-decision approaches (Cash et al., 2003), with indicators that can be verified from documents rather than asserted.

The argument is that good humanitarian data is not simply accurate data. It is evidence that is appropriately governed, interpreted with its limits visible, and documented well enough for others to reconstruct why a decision was taken (Taylor, 2017). The analysis rests entirely on the dated published record, and it uses contribution rather than attribution language wherever several actors and influences shaped an outcome (Mayne, 2012).

2. Conceptual and Literature Background

2.1 From information to decision: utilisation and sensemaking

The study of how research and information enter decisions has long recognised that use is rarely instrumental in the simple sense of a finding dictating a choice. Weiss (1979) distinguished several meanings of research utilisation, among them problem-solving, enlightenment, political and tactical uses, observing that research more often shapes how problems are conceptualised than which option is selected. In crisis settings, decision-makers work under time pressure, partial information and shifting conditions, and they rely on sensemaking routines that combine formal data with experience, informal reporting and negotiation among organisations (Boin & 't Hart, 2003). Field research on humanitarian coordination shows that such sensemaking is vulnerable to cognitive biases, including anchoring on early estimates and favouring information that confirms an existing picture (Comes, 2016). Humanitarian scholarship has documented how these routines operate in practice: information is gathered by many actors with different mandates, formats and timelines, and the work of assembling a shared operating picture is itself a coordination problem (Altay & Labonte, 2014; Van de Walle & Comes, 2015).

Two implications follow. The relevant evidence is available at the decision point, which may differ from what a later report publishes; and a decision may be influenced by data without being determined by it, so the appropriate language is contribution rather than attribution (Mayne, 2012).

Cash et al. (2003) add that information is more likely to be used when users perceive it as salient to their decision, credible in its methods and legitimate in the way it was produced. These attributes bridge the epistemic quality of data and its institutional uptake.

2.2 Risk, severity and need as distinct constructs

A recurring source of confusion in humanitarian prioritisation is the conflation of risk with current severity of need. In disaster risk science, risk is conventionally understood as a function of hazard, exposure and vulnerability, moderated by coping and adaptive capacity (Cardona et al., 2012). Birkmann et al. (2013) elaborate this into a framework in which vulnerability has physical, social, economic, environmental and institutional dimensions, and in which societal response capacities shape whether exposure translates into loss. The Sendai Framework places understanding disaster risk in all its dimensions of vulnerability, capacity, exposure and hazard characteristics as the first priority for action, which gives national risk analyses a clear normative anchor (UNISDR, 2015). Risk analysis is therefore probabilistic and forward-looking.

Humanitarian needs and severity analysis, by contrast, is oriented to the present or the near-term planning horizon. It seeks to estimate how many people are in need of assistance, how severe their conditions are and where needs are concentrated, typically through intersectoral analysis of indicators drawn from assessments, surveillance and secondary data (Checchi et al., 2017). When a risk map and a severity map are presented side by side without a clear statement of their different temporal orientation, a decision-maker may treat high risk as evidence of high current need, or vice versa. In contexts where conflict and natural hazards overlap, the distinction is further complicated by the politics of who defines risk and for whom (Siddiqi, 2018).

2.3 Composite indices, weighting and the problem of aggregation

Both risk analysis and severity analysis commonly rely on composite indicators that aggregate many variables into a single score or class. The methodological literature shows that the resulting rankings can be sensitive to choices about normalisation, weighting and aggregation, and that these choices are often value judgements presented as technical defaults (Greco et al., 2019). Without transparent weights, explicit treatment of missing data and sensitivity analysis, a map conveys a precision the data cannot support.

Aggregation across space raises a related problem. The modifiable areal unit problem describes how statistical relationships and rankings change with the scale and boundaries of the spatial units used (Fotheringham & Wong, 1991). A state-level average can hide acute pockets of need at LGA or ward level, while an LGA-level classification can mask differences between a garrison town and its inaccessible hinterland. Geospatial work in northern Nigeria has shown both the potential of satellite-derived settlement data to estimate population at fine scale without a recent census and the dependence of such estimates on modelling assumptions, so that the resulting denominators are modelled rather than enumerated (Weber et al., 2018). For prioritisation, the key question is whether the unit of analysis matches the unit at which resources are allocated, and what information is lost when it does not.

2.4 Displacement data, denominators and uncertainty

Displacement figures are among the most frequently cited numbers in humanitarian planning, but they are produced through methods that combine key informant estimates, site assessments, registration lists and periodic surveys, each with distinct coverage and error properties (Sarzin, 2017). Displacement tracking typically counts people at locations that enumerators can reach, which means that coverage is shaped by access, and that inaccessible areas may be represented by estimates or not at all. Denominators for rates such as malnutrition prevalence, vaccination coverage or case fatality depend on population figures that, in Nigeria, have relied on projections from the 2006 census and on modelled gridded estimates (Weber et al., 2018). More broadly, the growth of large and heterogeneous data streams has encouraged claims that data can speak for themselves, a position that obscures the theoretical and institutional choices embedded in every dataset (Kitchin, 2014).

Checchi et al. (2017) note that population data in crisis settings are often the weakest link in public health information, and that errors in denominators propagate into every rate derived from them. Research in camp-like settings in northern Nigeria shows that displaced people's circumstances and coping strategies differ within and across settlements (Ekezie, 2022), so a single figure per site conceals variation that service planning needs to see. When different products use different reference dates or definitions of displacement, apparent contradictions between totals may reflect method rather than change on the ground. Making the reference date, coverage and definition visible alongside each figure is therefore a minimum condition for informed use.

2.5 Dashboards, power and data responsibility

Dashboards and interactive maps have become a central medium for sharing humanitarian information. Their appeal lies in creating a common visual picture across organisations, which speaks directly to the information-flow impediments that research on disaster relief supply chains identifies between agencies working on the same emergency (Day et al., 2009). Critical scholarship, however, cautions that visualisation can obscure methodological differences, privilege what is measurable over what matters, and concentrate interpretive authority in those who control data infrastructure (Burns, 2015; Duffield, 2016). Mulder et al. (2016) show how crisis data produced through digital platforms can reproduce existing exclusions, rendering some populations highly visible and others almost absent.

A further strand of literature concerns data responsibility. Taylor (2017) frames data justice around visibility, engagement with technology and non-discrimination, arguing that being counted and being protected from harmful exposure are both entitlements. Jacobsen and Fast (2019) show how humanitarian technology governance can blur the line between care and control, especially for displaced populations whose data are collected as a condition of assistance. In conflict-affected settings, the location of displaced groups, the routes of movement and the identity of vulnerable individuals are sensitive, and responsible practice requires aggregation and access controls that may themselves reduce analytic precision (Sandvik et al., 2014). Any evidence-to-decision framework for North-East Nigeria must therefore balance granularity against protection, and transparency of method against exposure of people.

3. Methodology

3.1 Design and corpus

The study is a structured documentary analysis combined with theory-building. It follows the logic of process tracing, in which the analyst identifies a decision, specifies the evidence that would be expected if a given causal pathway operated, and examines the documentary record for the presence or absence of that evidence (Beach & Pedersen, 2019). Reviews of research practice in humanitarian crises stress that study designs have to be matched to the access, ethical and timing constraints of the setting (Smith & Blanchet, 2019). A design built on dated public records fits the

question asked here, because its object is the evidence that stood on the record when choices were made. The corpus is limited to records published no later than 31 December 2024.

Table 1 lists every primary and grey document analysed as evidence. The register contains thirteen documents: three official NEMA statements, one at the November 2023 launch of the National Contingency Plan and two at the launch of the 2024 countrywide risk analysis (NEMA, 2023, 2024a, 2024b); two federal government media accounts of the 2024 launch (FMINO, 2024; Voice of Nigeria, 2024); two independent press reports, one of a May 2024 review workshop and one of the December launch (News Agency of Nigeria, 2024; Simon, 2024); one UNICEF humanitarian appeal published at the end of 2023 (UNICEF, 2023a); four UNICEF situation reports, covering the first half of 2023, the first half of 2024, the Maiduguri flood response and the North-East cholera response (UNICEF, 2023b, 2024a, 2024b, 2024c); and one financial tracking record for the 2024 humanitarian response plan (OCHA, 2024). The conceptual frame draws on a further 37 scholarly and normative sources: 28 peer-reviewed journal articles, three peer-reviewed conference papers, three books or book chapters, and three institutional publications (a working paper, a methods review and the Sendai Framework).

Table 1. Corpus register of primary and grey documents analysed

Issuer	Document (short form)	Date	Document type	Analytical use
UNICEF	Humanitarian situation report No. 1, mid-year 2023	18 August 2023	Situation report	Lineage of the risk analysis; zonal contingency plans and their coverage
NEMA	Keynote at the launch of the reviewed National Contingency Plan	27 November 2023	Agency official statement	Earlier risk analysis edition and its use in contingency planning
News Agency of Nigeria (in Peoples Gazette)	Report of the Jos hazard risk analysis review workshop	8 May 2024	Press agency report	Stage reached by the 2024 analysis at mid-year; zonal validation still to follow

Issuer	Document (short form)	Date	Document type	Analytical use
NEMA	Launch announcement, Nigerian Hazard Countrywide Risk Analysis 2024	5 Decemb er 2024	Agency official statement	Launch date, scope, hazards, unit of analysis, contributing agencies
NEMA	Director General's opening remarks at the launch	5 Decemb er 2024	Agency official statement	Relation to the earlier edition, hazard characterisation, intended uses
Federal Ministry of Information and National Orientation	Report of the risk analysis launch	5 Decemb er 2024	Government press release	Corroboration of ownership and contributing agencies
Voice of Nigeria	Report of the risk analysis launch	5 Decemb er 2024	Government broadcaster news report	Corroboration of the launch and its stated purpose
Channels Television	Report of the risk analysis launch	5 Decemb er 2024	Independent press report	Participation in the analysis; flood and insecurity characterisation
UNICEF	Humanitarian Action for Children 2024: Nigeria	Late 2023	Humanitarian appeal	Episode E1; context figures; preliminary needs estimates
UNICEF	Humanitarian situation report No. 1, mid-year 2024	Covers 1 January to 30 June 2024	Situation report	Episode E2; access, funding, results, feedback, displacement totals
UNICEF	Situation report, Maiduguri flood response	Covers 10 to 23 Septemb er 2024	Situation report	Episode E3; camp registration, facility damage, nutrition survey
UNICEF	Humanitarian situation report, cholera response in the North-East	24 October 2024	Situation report	Episode E4; case counts, deaths, rates, vaccination, community feedback
OCHA	Financial Tracking Service, Nigeria 2024 country summary	Continuous record for 2024	Funding database record	Plan requirement and funding level

Inclusion required that a document be dated, attributable to an identifiable institution or author, and relevant to at least one of the three evidence systems or to a prioritisation decision in North-East Nigeria in 2024. Two categories were excluded. The first comprises documents published after 2024 that report on 2024, such as UNICEF's situation report for the full year 2024, issued in the following year, annual results reports and later evaluations; they fall outside the gate because the purpose was to reconstruct the evidence available during the period rather than evidence assembled retrospectively. The second comprises material whose provenance could not be verified, such as undated dashboard views and figures reposted without an identifiable issuing institution. Document analysis is well suited to this purpose because records are produced independently of the researcher and carry dates that allow sequencing (Bowen, 2009).

3.2 Coding frame, verification and the criterion of adequate evidence use

Each document was coded against a frame derived from the study's research questions and from the literature reviewed in Section 2. Table 2 sets out the dimensions of that frame, a definition of each and an example indicator. Coding proceeded deductively from these dimensions, with inductive codes added where documents raised issues the frame had not anticipated, such as the gap between feedback volumes and their documented use (Bowen, 2009). For each decision episode, the analysis recorded the evidence available at the decision point, the criteria applied, the option chosen and any subsequent monitoring or revision, following the decision-tracing approach used in studies of humanitarian information flows (Van de Walle & Comes, 2015).

Table 2. Coding frame: dimensions, definitions and example indicators

Dimension	Definition	Example indicator
Evidence product	A dated output presenting figures or classifications relevant to prioritisation	Owner, method, coverage, reference date, publication date, granularity, stated limitations, intended use
Decision episode	A prioritisation choice with distributive consequences documented in a dated record	Evidence available at the decision point; stated criteria; option documented; subsequent monitoring
Indicator quality	Properties that determine whether a reported figure can be interpreted and reproduced	Definition, denominator, disaggregation, reference date, recomputation of derived rates

Dimension	Definition	Example indicator
Divergence	Two or more figures reported for the same quantity	Classified as definitional, temporal, geographic or unexplained, with the treatment recorded
Filters on evidence	Conditions that screen which evidence-backed options can be pursued	Funding level by sector; access restrictions; statements of operational feasibility
Visibility	Populations or places represented weakly or not at all in the record	Coverage limited by access; populations beyond humanitarian reach; concentration in registered sites
Community evidence	Information generated by affected people and its route into decisions	Feedback volumes, resolution rates, documented changes to targeting or services
Causal language	The strength of the link claimed between evidence and a decision	Temporal co-occurrence, plausible contribution, attribution
Adequacy of evidence use	The four conditions of the criterion stated below	Fit to scale; recorded uncertainty and exclusions; stated criteria; documented rationale

Coding was carried out by a single analyst. Every quantitative figure and dated event reported in the findings was then re-checked against its issuing document in a separate verification pass. Two evidentiary rules apply throughout. A descriptive claim about what a document reports rests on that document. A claim about performance or causation requires at least two independent sources, and where a finding rests on one source it is labelled single-source, as in the strength-of-evidence column of Table 4. Where two figures were reported for the same quantity, both were recorded, the divergence was classified as definitional, temporal, geographic or unexplained, and the treatment adopted is reported in Table 6 rather than selecting the version that best fits the argument. Derived values, such as case fatality rates and doses per person, were recomputed from the counts presented in the same document. Causal language was restricted to distinguish temporal co-occurrence from plausible contribution, and contribution from attribution (Mayne, 2012).

The study applies one explicit criterion of adequate evidence use. A prioritisation decision is treated as adequately evidenced when four conditions are visible in the record: the evidence available at the decision date was fit for the decision's geographic and temporal scale; its uncertainties and exclusions were recorded; the criteria for choice were stated; and the rationale

connecting evidence to choice was documented. The criterion judges the evidence process, not whether the resulting allocation was correct, and it draws on the attributes of credibility and legitimacy that govern whether information is used (Cash et al., 2003). It is applied to each decision episode in Section 5.

3.3 Scope and limits of the method

The method has clear boundaries. Public documents record what institutions chose to publish, not the internal deliberations that preceded decisions, so the analysis cannot observe how evidence was weighed in meetings or how informal information shaped choices (Bowen, 2009). The countrywide risk analysis is published as an interactive platform, and the public statements accompanying its launch describe its scope and intended uses but not its full weighting scheme; the reconstruction of its methodology is therefore limited to what those statements disclose. Inter-agency planning documents and displacement tracking reports are referenced through the figures that other published records attribute to them, and the analysis is explicit where a figure is second-hand.

These limits are partly a matter of design. Data responsibility principles counsel against exposing locations, routes, personal data or internal deliberations in conflict settings (Jacobsen & Fast, 2019), and the study deliberately remains at an analytic level of aggregation. A reproducibility description is provided in Section 7.2 so that the coding and audit steps can be repeated by others using the same public sources (Beach & Pedersen, 2019).

4. Context: North-East Nigeria in 2024

The crisis in North-East Nigeria has its origins in armed conflict that began in 2009 and has since combined with economic shocks, climate variability and recurrent disease outbreaks. UNICEF's 2024 humanitarian appeal, published at the end of 2023, reported that armed conflict affected 7.7 million people in the North-East, around 60 per cent of them children, that two million people were internally displaced, and that about 45 per cent of displaced people lived in camps (UNICEF, 2023a). It also reported that admissions of severely malnourished children with medical complications had risen by 68 per cent compared with 2022 (UNICEF, 2023a).

During 2024 the operating environment deteriorated in several respects. UNICEF's mid-year situation report described humanitarian access in Borno as largely limited to garrison towns served by humanitarian air services, recorded that relocations of displaced people resumed in 2024 after a pause in 2023, and noted that at least one relocation moved people to a location beyond the reach of humanitarian actors (UNICEF, 2024a). Malnutrition worsened amid what the report described as a nationwide socioeconomic crisis, and nutrition commodities were projected to run out in the North-East without new funding (UNICEF, 2024a). On 10 September 2024 the breach of the Alau Dam flooded about 40 per cent of Maiduguri; close to 400,000 people were registered in about 30 camps within a week, and 29 health facilities offering nutrition services, about 40 per cent of the total, were damaged (UNICEF, 2024b). Cholera outbreaks were then declared in Adamawa on 22 September, Yobe on 26 September and Borno on 4 October (UNICEF, 2024c). Flooding is a recurrent national hazard with well-documented development costs (Echendu, 2020), and reviews of flood risk management identify fragmented responsibilities and limited risk data as persistent constraints (Nkwunonwo et al., 2016).

The institutional landscape for evidence is layered. NEMA is the federal agency responsible for disaster management coordination, and State Emergency Management Agencies hold corresponding responsibilities at state level (NEMA, 2024b). The countrywide risk analysis launched on 5 December 2024 was developed under NEMA leadership, with technical support from UNICEF and contributions from the Nigeria Centre for Disease Control, the national statistics agency, the Institute for Peace and Conflict Resolution, the Nigerian Meteorological Agency, the Nigeria Hydrological Services Agency and State Emergency Management Agencies (NEMA, 2024a, 2024b; FMINO, 2024). The 2024 product had a lineage. NEMA reported that a risk analysis carried out with UNICEF in 2021 across the geopolitical zones, at LGA level, guided the review of the National Contingency Plan launched in November 2023 (NEMA, 2023). UNICEF reported that an update of that analysis in 2022, mapping twelve risks, informed five zonal contingency plans published in May 2023 for the North-West, North-Central, South-West, South-South and South-East; no North-East plan is listed (UNICEF, 2023b). Inter-agency humanitarian planning was coordinated through the humanitarian architecture supported by OCHA, with a 2024 response plan requiring US\$926.5 million, against which US\$555.7 million, or 60 per cent, is recorded as funded (OCHA, 2024). Disease surveillance falls under the national

public health institute and state ministries of health, a system whose data quality and timeliness have been the subject of sustained improvement efforts (Ogunboye et al., 2023).

5. Findings

5.1 The evidence inventory and the problem of timing

Table 3 summarises the principal evidence products relevant to prioritisation in North-East Nigeria in 2024, recording for each its owner, method, coverage, reference date, granularity, limitations and intended use as disclosed in the public record. The inventory shows that the three evidence systems differ not only in content but in temporal orientation and institutional ownership, which is consistent with the literature on fragmented humanitarian information ecosystems (Altay & Labonte, 2014).

Table 3. Evidence inventory for prioritisation in North-East Nigeria, 2024

Evidence product	Owner and support	Method as disclosed	Coverage and granularity	Reference or release date	Disclosed limitations	Intended use
Nigerian Hazard Countrywide Risk Analysis 2024	Government-led through NEMA; UNICEF technical support; federal agencies and SEMAs contributing	Multi-hazard analysis of twelve hazards compiled over seven months, with about 400 participating representatives; hazards ranked by severity and impact	Country wide; LGA level	Review workshop in May 2024; launched 5 December 2024	Full weighting scheme not described in launch statements	Preparedness plans, resource prioritisation, risk-informed programmes, early warning baseline, public awareness
Inter-agency needs and response plan 2024	Inter-agency humanitarian system with OCHA coordination	Intersectoral needs and severity analysis; preliminary figures circulated before final plan	Borno, Adamawa and Yobe states	Preliminary figures cited in late 2023; plan funding tracked through 2024	Preliminary figures subject to revision	Annual targeting, sector requirements, resource mobilisation
IOM Displacement Tracking Matrix mobility tracking	IOM	Periodic rounds of site and location assessment	Accessible LGAs and wards	Rounds released periodically	Coverage limited by access	Displacement totals and site profiles used by other products

Evidence product	Owner and support	Method as disclosed	Coverage and granularity	Reference or release date	Disclosed limitations	Intended use
UNICEF humanitarian appeal and situation reports	UNICEF	Programme results against targets, compiled from partner and cluster reporting	Programme states; some LGA detail	Appeal late 2023; reports in August, September and October 2024	Mixed reference dates across indicators	Monitoring, advocacy, resource allocation
Financial Tracking Service record	OCHA	Self-reported funding flows	National plan level	Continuous	Reporting depends on donors and agencies	Funding gap analysis
Cholera surveillance figures	State ministries of health and national public health institute, reported through state emergency operations centres	Suspected and confirmed case reporting	State and LGA	Different as-of dates by state	Low confirmation ratio; mismatched dates	Outbreak response and vaccination allocation

The most consequential pattern in Table 3 is temporal. The countrywide risk analysis was launched on 5 December 2024 (NEMA, 2024a), after the principal 2024 decision episodes examined in this study had already taken place. The NEMA Director General's remarks state that the new analysis validates findings from a previous report issued in 2021 and adds data reflecting current conditions (NEMA, 2024b). A news agency report of 8 May 2024 places the 2024 exercise at its working stage: a three-day workshop in Jos, convened by NEMA with UNICEF technical support, was identifying and updating hazard risks and gathering and mapping data, with validation across the six geopolitical zones still to follow, while the baseline from the 2021 work was described as already in use by government entities and development partners (News Agency of Nigeria, 2024). This account is single-source and press-derived, but it fits the dated launch record. When the mid-year reprioritisation, the flood response and the cholera vaccination took place, the 2024 analysis was therefore still being compiled or validated, and the government-led risk evidence available was the earlier edition. This is not a weakness of an analysis designed for the next planning cycle,

but claims that it shaped 2024 decisions would confuse the timing of evidence with its relevance, as the decision-tracing literature warns (Beach & Pedersen, 2019).

A second pattern concerns the use of preliminary figures. UNICEF's appeal for 2024, published at the end of 2023, drew its headline estimates of 8.7 million people in need and 4.5 million children in need from preliminary OCHA figures in a draft humanitarian needs overview (UNICEF, 2023a). Appeal targets and requirements were thus set on figures explicitly labelled as provisional. This is normal given planning calendars, but the evidence available at the decision point was not that of the final plan, and later revisions should be traced explicitly rather than retrofitted into the account of why targets were set.

5.2 Four decision episodes

Four decision episodes in which public documents allow the evidence base, criteria and choices to be reconstructed are summarised in Table 4, whose final column records the strength of the evidence behind each reconstruction. They were selected because each involves a prioritisation choice with distributive consequences, each is documented in records dated within the period, and together they span annual planning, in-year reprioritisation under funding constraints, sudden-onset emergency response and outbreak control.

In episode E1, the evidence base combined provisional needs figures with displacement data from 2023 tracking rounds and a clinical trend in malnutrition admissions, and the stated criteria emphasised UNICEF's role as provider of last resort in the North-East and as lead of the nutrition, water, sanitation and hygiene, education and child protection sectors (UNICEF, 2023a). The record allows the targets to be linked to stated criteria, but it does not disclose how sector targets were derived from people-in-need estimates, a gap that limits accountability for the targeting choice. Episode E2 illustrates the interaction of evidence and funding. By mid-year, the appeal was reported as 49 per cent funded, with a gap of US\$110.3 million, or 51 per cent, and nutrition was the largest sectoral gap at 64 per cent (UNICEF, 2024a). Severe wasting admissions in the North-East already exceeded the mid-year target, which signalled that demand was outpacing planning assumptions. The documented response was to flag a projected pipeline break and appeal for funding rather than to revise targets, illustrating how operational data can accelerate advocacy without changing the formal plan (UNICEF, 2024a).

Table 4. Decision episodes reconstructed from dated public records

Episode	Decision	Evidence available at the decision point	Criteria stated in the record	Option documented	Subsequent monitoring in the record	Strength of evidence
E1. Annual appeal targeting, late 2023 for 2024	Set people-to-reach targets and requirements for the North-East	Preliminary needs figures from a draft needs overview; displacement data from 2023 tracking rounds; nutrition admissions trend	Provider-of-last-resort role in lead sectors; conflict-affected children and women prioritised	4.8 million people targeted, including 3.4 million children; requirement of US\$214.7 million	Mid-year results against annual targets	Single-source (appeal); descriptive only
E2. Mid-year nutrition reprioritisation, 2024	Sustain severe wasting treatment amid a 51 per cent appeal funding gap	North-East severe wasting admissions of 255,290 against a mid-year target of 192,000; commodity pipeline projections	Continuity of life-saving treatment; pipeline break risk	Advocacy for nutrition funding; projected North-East pipeline break flagged	Commodity status and admissions reported in later updates	Single-source (mid-year report); descriptive only
E3. Maiduguri flood response, September 2024	Where and how to deliver multisector relief in flood camps	Government camp registration; damage counts for health and nutrition facilities; August 2024 nutrition survey	Camp-based concentration of displaced people; cholera risk; damaged services	Relief reached 131,000 people in 20 camps within ten days; vaccine stock replaced	Disease monitoring in camps; two confirmed cholera cases elsewhere in Maiduguri on 23 September	Single-source (flood report); camp figures second-hand from government registration

Episode	Decision	Evidence available at the decision point	Criteria stated in the record	Option documented	Subsequent monitoring in the record	Strength of evidence
E4. North-East cholera vaccination, October 2024	Allocate oral cholera vaccine across three states	State case counts with different as-of dates; outbreak declarations by state	Affected LGAs; outbreak declaration status	About 1.12 million people vaccinated across the three states	Case counts and treatment unit capacity reported by state	Single-source (cholera report); counts internally inconsistent in places

Episodes E3 and E4 show evidence used under acute time pressure. In the flood response, the primary population data came from government registration in camps rather than from displacement tracking, and the early relief footprint, reaching 131,000 people in 20 camps within ten days, followed the concentration of people in registered sites (UNICEF, 2024b). Damage data on nutrition facilities and the August nutrition survey, which found nearly a quarter of children under five acutely malnourished, framed the severity of the shock (UNICEF, 2024b). In the cholera response, vaccination was organised by state and by affected LGA, with Borno vaccinating 787,164 people across seven LGAs, Adamawa 200,000 people in two LGAs and Yobe 136,095 people across fourteen LGAs (UNICEF, 2024c). In both cases the evidence most directly connected to action was the most proximate and operational, consistent with research showing that responders privilege recent, local and actionable information over broader analytic products (Van de Walle & Comes, 2015).

Read against the criterion of adequate evidence use (Section 3.2), the four episodes perform unevenly; because each rests on a single agency's account, the assessment describes the record rather than judging performance. Criteria were stated in all four episodes. Fit to scale was clearest in E3 and E4, where camp registration and LGA case counts matched the units at which relief and vaccine were delivered, and least clear in E1, where targets for the coming year rested on figures the appeal itself labels preliminary (UNICEF, 2023a). Recording of uncertainty was partial: E1 flagged its figures as provisional, whereas E4 combined counts with different reference dates without comment. A rationale connecting evidence to the chosen option was not documented in full in any episode; E2 comes closest, linking admissions above target to a projected pipeline break

and an appeal for funding (UNICEF, 2024a). No episode therefore met all four conditions in the public record, and the missing condition is the one on which external accountability most depends (Cash et al., 2003).

5.3 Definitions, weighting and the distinction between risk and severity

The public statements accompanying the countrywide risk analysis describe it as covering twelve hazards, analysed and presented at LGA level, with hazards ranked by severity and impact (NEMA, 2024a, 2024b). The NEMA Director General's remarks characterise flooding, in riverine, flash and coastal forms, as affecting between 80 and 95 per cent of states, and describe conflict and violence in regionally differentiated terms, identifying organised armed conflict in Borno, Adamawa and Yobe, escalating violence in parts of the North-West and communal tensions in parts of the North-Central zone (NEMA, 2024b). An independent press account of the launch reports the same range for flooding, names Borno, Adamawa and Yobe among states facing security threats, and states that about 400 representatives of sectors and organisations took part in the research process (Simon, 2024). The flood figure illustrates the aggregation problem discussed in Section 2.3: a range of fifteen percentage points conveys that flood exposure is widespread without showing which states fall inside it. These statements disclose the scope and the unit of analysis but not the formula through which hazard, exposure, vulnerability and capacity were combined, nor the weights applied. Reconstructing the methodology from public sources therefore stops at the level of design intent.

This matters because rankings produced by composite indices depend on weighting and aggregation choices (Greco et al., 2019). The choice between arithmetic and geometric aggregation is consequential: a geometric mean limits compensability, so that a low score on one dimension cannot be fully offset by a high score on another, whereas an arithmetic mean allows full compensation (Greco et al., 2019). Whether the Nigerian analysis followed this or another aggregation rule cannot be determined from its launch documentation. The distinction between risk and current severity is, however, clear in the intended uses stated by NEMA, which emphasise preparedness planning, risk-informed programming, early warning and public awareness rather than the measurement of current humanitarian need (NEMA, 2024b). Humanitarian severity analysis answers a different question, and treating the two as interchangeable would mislead allocation decisions in both directions (Cardona et al., 2012).

5.4 Geography, aggregation and visibility

The geographic unit of analysis differs across the three evidence systems. The countrywide risk analysis is presented at LGA level across the whole country (NEMA, 2024a). Inter-agency needs analysis for the North-East concentrates on Borno, Adamawa and Yobe and is typically disaggregated by LGA. Operational reporting mixes units: camp counts in the flood response, LGA counts in cholera vaccination, state totals in appeal targets and region-level figures for nutrition results (UNICEF, 2024a, 2024b, 2024c). Each shift in unit discards information. A state-level case fatality rate cannot show whether deaths cluster in a camp or an inaccessible LGA, and an LGA-level risk class cannot distinguish a garrison town from surrounding areas with very different exposure, a manifestation of the modifiable areal unit problem (Fotheringham & Wong, 1991).

Visibility is also shaped by access. The mid-year report's observation that humanitarian access in Borno was largely confined to garrison towns, and that at least one relocation moved people beyond the reach of humanitarian actors, identifies a category of population whose needs are structurally under-measured (UNICEF, 2024a). Displacement tracking counts people where enumerators can reach, so that populations outside accessible areas appear only as estimates or not at all (Sarzin, 2017). The cluster of about 600 cholera cases in one camp hosting flood-displaced people shows the opposite effect: concentration in a registered site made the outbreak visible, as dispersed or inaccessible populations would not have been (UNICEF, 2024c). Critical scholarship anticipates this asymmetry, warning that data infrastructures tend to render visible those already within reach of institutions (Mulder et al., 2016; Taylor, 2017).

5.5 Indicator audit: definitions, denominators, dates and consistency

Selected indicators reported in the 2024 record were audited for definition, denominator, disaggregation, reporting lag and internal consistency, with results set out in Table 5. The audit recomputes derived values from counts published in the same document and records discrepancies without assuming which figure is correct, following recommended practice for composite and derived indicators (Greco et al., 2019).

Table 5. Audit of selected indicators reported in 2024 public records

Indicator	Definition and denominator as reported	Disaggregation	Reporting lag or date issue	Consistency finding
Internally displaced persons, North-East	Totals of 2 million in the North-East and 2.9 million cited in different parts of the record	Region, Borno	Reference rounds not stated alongside each figure	Two totals coexist; text and endnote of the same report differ
Severe wasting admissions	Children 6 to 59 months admitted; denominator is annual or mid-year target	Region	Mid-year cut-off	North-East admissions exceed mid-year target while annual completion is 39 per cent; both are internally coherent but answer different questions
Cholera suspected cases, three states	Suspected cases with confirmed subset of 142 out of 3,103	State	As-of dates range from 13 to 22 October	Totals combine counts with different reference dates
Cholera case fatality rate	Reported rates of 3.8, 2.3 and 6.5 per cent	State	As above	Rates recomputed from published deaths and cases are about 0.15, 2.1 and 5.3 per cent; reported and recomputed values diverge for Borno
Oral cholera vaccine use	4.4 million doses received; about 2 million doses reported used	State, LGA	Campaign period	State dose figures sum to about 1.87 million; doses per person range from about 1.3 to 3.0 across states
Lagos cholera confirmed cases	Confirmed cases	State	Mid-year	Highlights and situation overview report 58 and 70 respectively

The audit points to three recurring problems. The first is the coexistence of different totals for the same quantity without a stated reconciliation. The mid-year report cites both a figure of 2.9 million displaced people, drawn from appeal figures, and a statement of two million displaced people in Borno (UNICEF, 2024a), while the appeal itself reports two million displaced people across the North-East (UNICEF, 2023a). These figures may be reconcilable through differences in geography, reference round or definition, but the record does not make the reconciliation visible,

leaving a reader unable to determine which total underpins a given target. Table 6 records the treatment adopted.

The second problem is the aggregation of figures with different reference dates. The cholera report presents a three-state total of 3,103 suspected cases, but the component state figures carry as-of dates of 22 October for Borno, 21 October for Adamawa and 13 October for Yobe (UNICEF, 2024c). During a fast-moving outbreak, a nine-day difference can materially change relative burden. The third problem is that some derived indicators cannot be reproduced from the counts in the same table. Recomputing case fatality from the published deaths and cases yields values close to the reported rates for Adamawa and Yobe but very different for Borno, where three deaths among 2,005 cases imply about 0.15 per cent against a reported 3.8 per cent (UNICEF, 2024c). The discrepancy may reflect a different denominator, a later death count or a reporting error; the document does not say. These findings are consistent with analyses of Nigerian surveillance that call for stronger data timeliness, quality and integration (Ogunboye et al., 2023), and with broader evidence that derived rates in crisis settings are only as reliable as their least certain component (Checchi et al., 2017).

These divergences are not peculiar to Nigeria. Situation reports are assembled from many contributors on fixed reporting cycles, and close study of their production describes them as documents that serve several audiences and purposes at once, which helps explain why figures of different provenance and date sit side by side in a single report (Finn & Oreglia, 2016). Table 6 records each contradiction encountered in the corpus, the nature of the divergence and the treatment adopted.

Table 6. Contradictory evidence and basis of resolution

Issue	Sources	Nature of divergence	Treatment in this study
Displacement totals (Table 5, first row)	UNICEF (2023a); UNICEF (2024a)	Geographic and possibly definitional; reference rounds not stated	Each figure kept with its own source and date; totals not combined
Three-state cholera total	UNICEF (2024c)	Temporal; state counts dated 13, 21 and 22 October	Component counts reported with their dates; total not used for ranking
Borno case fatality rate	UNICEF (2024c)	Unexplained; reported and recomputed values diverge	Both values reported; ranks shown under each (Table 7)

Issue	Sources	Nature of divergence	Treatment in this study
Oral cholera vaccine doses used	UNICEF (2024c)	Unexplained; reported total exceeds the sum of state figures	Both figures reported; doses per person computed from state figures
Lagos confirmed cholera cases	UNICEF (2024a)	Unexplained; highlights and situation overview differ within one report	Recorded in the audit only; not used in further analysis
Date of the earlier risk analysis edition	NEMA (2023, 2024b); UNICEF (2023b)	Temporal; NEMA cites the 2021 analysis, UNICEF a 2022 update of it	Treated as one edition, the 2021 analysis as updated in 2022
Funding level, 60 and 49 per cent	OCHA (2024); UNICEF (2024a)	Definitional and temporal; inter-agency plan as recorded against one agency's appeal at mid-year	Not treated as contradictory; each cited with its own denominator and date

5.6 Sensitivity of priorities to the choice of metric

Where data permit, a sensitivity test shows how priorities change under alternative assumptions. The cholera figures for the three North-East states provide a transparent case, because counts, reported rates and vaccination totals are all published in one document (UNICEF, 2024c). Table 7 ranks the three states under four metrics that a decision-maker might reasonably use.

Table 7. Rank order of three North-East states under alternative cholera prioritisation metrics, October 2024

Metric	Borno	Adamawa	Yobe	Basis
Suspected cases	1	2	3	2,005; 910; 188 cases
Deaths	2	1	3	3; 19; 10 deaths
Reported case fatality rate	2	3	1	3.8; 2.3; 6.5 per cent
Recomputed case fatality rate	3	2	1	about 0.15; 2.1; 5.3 per cent

Each state ranks first under at least one metric. Borno leads on case volume, Adamawa on deaths and Yobe on both reported and recomputed case fatality. The ranking of Borno moves from first to third depending on whether volume or severity is privileged and on which fatality figure is trusted. This does not imply that any allocation was wrong, since vaccination decisions also reflect

declaration status, population at risk, logistics and vaccine availability. On that criterion, the October allocation meets two conditions, stated criteria and broad fit to scale, since both case counts and vaccination were organised by state and LGA; it falls short on the other two, because the record does not flag the mismatched reference dates or the divergent Borno rate as uncertainties, and it does not set out how counts translated into dose allocation. It does show that the choice of metric is a value judgement with distributive consequences, and that a dashboard presenting only one metric implicitly makes that judgement on behalf of decision-makers (Greco et al., 2019). Showing alternative rankings with the reference date of each count is a low-cost step toward accountable prioritisation (Saltelli et al., 2007).

5.7 Funding, feasibility and access as filters on evidence

Evidence does not enter decisions in a vacuum. Funding levels, operational feasibility and access constraints act as filters that determine which evidence-backed options can be pursued. The 2024 response plan was recorded as 60 per cent funded (OCHA, 2024), and UNICEF's appeal was reported as 49 per cent funded at mid-year, including resources carried forward from the previous year (UNICEF, 2024a). Sectoral gaps were uneven, with nutrition at 64 per cent, water, sanitation and hygiene at 63 per cent, child protection at 59 per cent and education at 58 per cent (UNICEF, 2024a). Results reflected these constraints: by mid-year, only 20 per cent of the annual target for access to sufficient water and 4 per cent of the sanitation target had been reached, while education reached 76 per cent (UNICEF, 2024a).

Beyond a threshold, the binding constraint appears to have been resources rather than evidence. The literature on needs-based allocation describes this pattern, in which evidence shapes the ordering of options but funding volume, earmarking and institutional priorities determine how far down the list a response can reach (Hilhorst, 2018). Access constraints add a further filter. Rapid response mechanisms were used to reach hard-to-reach areas, responding to 17 alerts and reaching 162,080 people across 18 LGAs in the first half of the year (UNICEF, 2024a). Where access is limited to garrison towns, the population that can be served may not coincide with the population that evidence identifies as most in need, and access rather than need alone becomes a determinant of who is served, a tension central to debates on principled humanitarian allocation (Hilhorst, 2018).

5.8 Community-generated data, qualitative evidence and accountability

The public record shows that community-generated information was collected at scale but that its route into prioritisation is weakly documented. In the first half of 2024, partners in the North-East collected 22,725 feedback items, of which 79 per cent were reported as resolved (UNICEF, 2024a). During the cholera response, three community feedback mechanisms in camps received 2,570 items, and a text-message poll recorded 298 participants (UNICEF, 2024c). The documents report volumes and resolution rates, not how feedback changed targeting or services. Feedback that is counted but not used becomes a compliance indicator rather than evidence (Mulder et al., 2016).

Qualitative and community knowledge is particularly important where quantitative coverage is weakest, such as among relocated populations beyond humanitarian reach. Research on displaced communities in northern Nigeria highlights the agency and adaptive strategies of camp residents, which standard indicators often miss (Ekezie, 2022). Integrating it requires a record of how it was weighed against survey and surveillance data, and safeguards so that those providing information are not exposed to harm (Jacobsen & Fast, 2019). The countrywide risk analysis lists public awareness among its intended uses (NEMA, 2024b), which implies a flow of information toward communities; the reverse flow, from communities into the analysis, is not described in the launch documentation.

6. The Evidence-to-Decision Chain

The findings support a case-derived diagnostic checklist that traces evidence from production to accountable use. The evidence-to-decision chain is offered as an instrument for examining documented decisions, not as a general validated framework: it was derived from one setting and one year, and its stages and indicators require testing in further cases before wider claims can be made for it. It adapts the logic of structured evidence-to-decision approaches, which require decision-makers to make explicit the criteria, the evidence for each criterion and the judgement applied (Cash et al., 2003), to the humanitarian setting where evidence is multi-owner, time-sensitive and politically embedded. Its stages operationalise the four conditions of adequate evidence use set out in Section 3.2. Each stage is linked to verifiable indicators in Table 8, chosen so that compliance can be assessed from documents rather than self-report, consistent with the

emphasis on salience, credibility and legitimacy in the literature on knowledge use (Cash et al., 2003).

Table 8. The evidence-to-decision chain: stages, guiding questions and verifiable indicators

Stage	Guiding question	Verifiable indicator	Means of verification
1. Decision definition	What decision is being made, by whom, at what geographic unit and by when?	Decision record names owner, unit of allocation and deadline	Dated decision note or meeting record
2. Evidence inventory	Which products are available at the decision point, and who owns them?	Inventory lists owner, method, coverage, reference date, granularity and limitations for each product	Inventory annexed to the decision record
3. Method transparency	How were risk, severity, exposure, vulnerability and capacity defined and weighted?	Weights, aggregation rule and missing-data treatment published for each composite product	Published methodology note
4. Quality and uncertainty	Are denominators, reference dates and uncertainty visible?	Every figure shown with reference date and source; derived rates reproducible from published counts	Indicator audit against source tables
5. Reconciliation	How were conflicting figures resolved?	Conflicting figures and the reconciliation rule recorded; sensitivity of priorities to alternative metrics reported	Reconciliation log and sensitivity table
6. Decision rationale	Which criteria determined the choice, and how did funding, access and feasibility filter options?	Criteria, chosen option and screening by feasibility stated; contribution of evidence distinguished from other drivers	Rationale statement in plan or allocation record

Stage	Guiding question	Verifiable indicator	Means of verification
7. Feedback	Did subsequent monitoring show the prioritisation was appropriate?	Pre-specified monitoring indicators reported against the decision; revisions documented with dates	Situation reports and revision notes

Three design principles underlie the chain. First, it is anchored on decisions rather than products. Much humanitarian information management begins with data collection and works forward to dissemination; the chain begins with the decision and works backward to the evidence required, which aligns with findings that information is used when it is designed for a specific decision (Van de Walle & Comes, 2015). Second, it separates risk from severity at the inventory stage, so that forward-looking products such as the countrywide risk analysis are recognised as inputs to preparedness, anticipatory action and contingency planning, while severity products inform current allocation (Cardona et al., 2012; Coughlan de Perez et al., 2015). Third, it treats documentation as an analytic step, because the reconciliation log and decision rationale allow others to reconstruct and contest choices.

The checklist is located on a construct shared by much of the crisis governance literature, namely decision rights: who may decide, at which tier and on what evidence. Stage 1 makes the first two elements explicit by naming the decision owner and the unit of allocation, while stages 2 to 6 specify the evidence on which that owner may act and the record that must accompany the choice. Crisis leadership research treats the distribution of decision authority across levels of government as a central and contested task (Boin & 't Hart, 2003), and the legitimacy of evidence depends partly on whether those affected accept the process through which it was produced (Cash et al., 2003). Its indicators therefore test whether decision rights were exercised on documented evidence, not whether an organisation performed well.

The chain also clarifies how a forward-looking product such as the countrywide risk analysis can be connected to humanitarian action without being mistaken for a measure of current need. Anticipatory approaches link pre-agreed triggers, derived from forecasts or risk thresholds, to pre-agreed actions and finance, so that the evidence base is specified before the hazard materialises (Coughlan de Perez et al., 2015). In the chain, this corresponds to completing stages 1 to 3 before

the season of concern, while stages 4 to 7 operate when the hazard occurs and operational data replace risk estimates. Such sequencing, consistent with the Sendai Framework's emphasis on understanding risk as the basis for preparedness (UNISDR, 2015), places the government-led analysis at the beginning of the decision cycle, where its LGA-level ranking of hazards is most useful.

Applied to the 2024 record, the chain shows uneven performance. Stage 1 is partly met, since decision owners and units are often identifiable from published documents, but deadlines and decision dates are rarely explicit. Stage 2 is met for individual organisations but not across the system, because no single public inventory brings the three evidence systems together. Stage 3 is the weakest for composite products: the launch documentation of the countrywide risk analysis discloses scope and units but not weights (NEMA, 2024a, 2024b). Stage 4 is uneven, as the indicator audit shows. Stages 5 and 6 are largely undocumented in public records. Stage 7 is relatively strong for programme outputs, through regular situation reports, but weaker for outcomes such as whether priority locations improved relative to others (Checchi et al., 2017).

7. Discussion

7.1 Implications for policy and practice

The findings carry implications for the institutions that produce and use humanitarian evidence in Nigeria. For the government-led risk analysis, the most important implication concerns timing and connection. Launched in December 2024, the analysis is well placed to inform preparedness planning and the next annual planning cycle, but only if its outputs are linked to specific decision calendars, such as contingency planning before the flood season and the setting of inter-agency targets. NEMA's own statement of intended uses, including support to preparedness plans and resource prioritisation (NEMA, 2024b), provides the hook; the evidence-to-decision chain provides a way to verify whether the connection is made. Publishing the weighting and aggregation method would strengthen credibility and allow humanitarian partners to align severity and risk analyses without conflating them (Greco et al., 2019).

Precision about ownership is itself part of evidence quality. The record is consistent that the analysis was developed under NEMA leadership, with UNICEF technical support and

contributions from federal agencies and State Emergency Management Agencies (NEMA, 2024a; FMINO, 2024); describing it as a UNICEF or joint inter-agency product would misstate accountability for its content and weaken its legitimacy with the authorities expected to use it (Cash et al., 2003).

For humanitarian organisations, the indicator audit suggests low-cost changes: showing the reference date and source beside every figure, avoiding totals that combine counts of different dates, and checking that reported rates can be reproduced from published counts. Dashboards can ease the information-flow impediments that fragment inter-agency coordination (Day et al., 2009), but they should present alternative metrics where priorities are sensitive to metric choice, as the cholera example demonstrates. Funding analysis should report how feasibility and access screened target populations, so that donors and the public can distinguish evidence-led from access-led prioritisation (Hilhorst, 2018). Finally, community feedback should be reported not only as volumes and resolution rates but as documented changes to targeting or services (Mulder et al., 2016).

7.2 Limitations and reproducibility

The study is subject to the limitations of documentary analysis. It observes published outputs, not deliberations, and cannot establish how evidence was weighed in internal meetings or how informal information shaped choices (Bowen, 2009). The methodology of the countrywide risk analysis could be reconstructed only to the extent disclosed in public launch statements. Some inter-agency figures are known through the documents of a single agency, which may introduce selection effects, and coding by a single analyst, although followed by a separate verification pass against each source, cannot exclude interpretive bias in the assignment of codes. The decision episodes are illustrative rather than representative, and the analysis uses contribution language throughout because several actors and influences shaped each outcome (Mayne, 2012).

With the corpus register (Table 1) and coding frame (Table 2) reported in full, the procedure can be repeated: sequence the registered documents by date, record the evidence available before each decision, recompute derived indicators from published counts and log discrepancies with their possible explanations. No personal data, locations of individuals, routes or security procedures are used at any stage, in line with responsible data practice in conflict settings (Jacobsen & Fast, 2019).

7.3 Sensitivity to the anchor-year boundary

Restricting the corpus to documents published by the end of 2024 protects the reconstruction against hindsight, because it limits the analysis to what could have been known when choices were made (Beach & Pedersen, 2019). The boundary nevertheless has costs, and its effect differs across conclusions. Some conclusions would not change if later documents were admitted. The timing finding, that the 2024 countrywide risk analysis was launched after the year's main decision episodes, rests on dated launch records, and on a mid-year report of the analysis still under review, that later reporting cannot alter. The inconsistencies identified in the indicator audit are properties of documents as published, and they describe the evidence that decision-makers could actually see. Other conclusions are more exposed. Later evaluations, after-action reviews or year-end reports could document the reconciliation of competing figures, the rationale for allocations and outcome monitoring, which would change the assessment that stages 5 and 6 of the chain are largely undocumented and that outcome monitoring under stage 7 is weak. A corrected surveillance dataset could also explain the divergent Borno rate, and whether the 2024 risk analysis shaped later planning lies outside the period altogether. Absence of a practice from the dated public record is not evidence that the practice was absent; it shows only that the practice was not visible in published form when decisions were taken (Bowen, 2009).

7.4 Future research

The next validation step for the checklist is to test it against evidence that the public record cannot supply. Applying the seven stages to internal decision records, held under appropriate data governance, and to the accounts of those who took the decisions would show whether the patterns observed in published documents hold in deliberation, and whether stages judged weak here are weak in practice or only undocumented. That step, together with testing whether forward-looking risk products are used in contingency planning before seasonal hazards (Coughlan de Perez et al., 2015), is a condition for treating the chain as more than a case-derived instrument. Applying the checklist in other Nigerian regions, where government agencies lead with fewer humanitarian partners, would test whether the link between national risk analysis and prioritisation differs from the North-East (Siddiqi, 2018).

Work on food insecurity early warning has shown that combining heterogeneous data streams in transparent models can improve crisis prediction (Lentz et al., 2019), and similar approaches could

test whether risk classes anticipate later humanitarian severity in Nigeria. Open sensitivity tools that let users vary weights and observe changes in priority rankings would extend established practice in composite indicator construction (Saltelli et al., 2007), and studies of community feedback systems could identify the conditions under which feedback changes decisions rather than being counted (Taylor, 2017).

8. Conclusion

This article has traced how three evidence systems, a government-led countrywide hazard risk analysis developed under the leadership of the National Emergency Management Agency with technical support from UNICEF, inter-agency needs and severity analysis, and operational information from displacement tracking, situation reports and programme monitoring, were positioned to inform prioritisation in North-East Nigeria in 2024. It shows that evidence was most usable when it was timely, specific to the unit at which resources were allocated, transparent about its reference date and connected to an established decision routine. It also shows that recurring weaknesses, including competing totals, mismatched reporting dates, derived figures that cannot be reproduced and a structural lag between forward-looking risk analysis and in-year decisions, are correctable through disciplined documentation. The evidence-to-decision chain, a diagnostic checklist derived from this case and open to testing in others, sets out a practical sequence: define the decision, inventory the evidence, disclose methods, make uncertainty visible, record reconciliation, state the rationale and monitor the result. Applied consistently, it allows government and humanitarian partners to demonstrate not only that data exist, but that they were governed, interpreted and used well enough to support accountable decisions for the people most affected.

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