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Coordinating Multi-Hazard Emergencies in Nigeria's Federal System through the 2023 Adamawa Flood Response

Olayinka Afolabi
Independent Researcher – Emergency Preparedness and Humanitarian Action, Nigeria
Email ID: olayinka.lab@gmail.com

Abstract

The 2023 Adamawa flash-flood response was state-led in documented practice. The State Emergency Management Agency (SEMA) convened weekly coordination, co-produced the rapid assessment and served as the reference point for figures, while federal and humanitarian actors contributed river monitoring, alerting, contingency stocks held in government warehouses and assessment support. The largest weaknesses lay at the interfaces between these actors. Three organisations published impact figures that differ by a factor of about five for displacement; flooding was recorded as beginning two days before the formal alert despite weeks of monitored dam releases; and no measurable alert or escalation threshold, consolidated cross-sector prioritisation or review mechanism is visible in the record. Concurrent displacement, cholera and diphtheria responses ran through separate leadership channels with no documented link to the flood structure. These findings come from a structured documentary analysis of fifteen primary and grey documents dated no later than 2023, including statutes, national frameworks, situation reports, a displacement tracking flash report and a sector incident report, coded across five coordination functions and three institutional interfaces and interpreted against the scholarly literature on crisis coordination and multilevel governance. The findings are condensed into the Connected Federalism Coordination Framework, a case-derived diagnostic checklist of verifiable indicators that requires testing in further cases. Federalism becomes an operational asset when authority, information and resources are deliberately connected before a crisis occurs.

Keywords: emergency coordination; federalism; multilevel governance; flood response; humanitarian information management; Nigeria; disaster management

1. Introduction

Emergencies in federal states test the relationship between constitutional design and operational reality. Authority is distributed across levels of government, while floods, epidemics and displacement cross those boundaries regardless of who holds the mandate. Effective response in such settings depends less on a single chain of command than on the capacity of many organisations to share information and align priorities (Comfort, 2007; Waugh & Streib, 2006). Studies of large disasters in other federal systems have shown that failures commonly attributed to federalism itself often stem from weak connections between levels, ambiguous decision rights and inadequate information flows rather than from the division of authority as such (Birkland & Waterman, 2008).

Nigeria offers a demanding setting for examining these questions. Its disaster-management architecture rests on a federal agency created by statute in 1999, state-level structures that each state is expected to establish, and local arrangements whose legal footing and resourcing vary considerably (Federal Republic of Nigeria, 1999; National Emergency Management Agency, 2010). In 2023 the country faced overlapping crises: protracted displacement in the north-east, a nationwide diphtheria outbreak, cholera in several states and seasonal flooding that, in Adamawa State, was intensified by water releases from the Lagdo Dam in neighbouring Cameroon (UNICEF, 2023a, 2023c, 2023d). Each engaged federal, state and local institutions alongside international organisations, through partly different coordination channels.

This article uses the October 2023 Adamawa flash-flood response as its principal operational case and situates it within the wider 2023 hazard landscape. It addresses three questions. First, how were leadership and decision-making responsibilities interpreted across levels of government and between government and humanitarian actors? Second, which coordination arrangements appear in the record as having accelerated or delayed multisectoral action? Third, what practical mechanisms connected national frameworks to field-level delivery? They respond to the recurring

observation that Nigerian disaster-management institutions exist on paper at all levels but function unevenly below the federal level (Adefisoye et al., 2023; Dairo, 2023).

The study makes three contributions. It assembles a dated, source-referenced reconstruction of the Adamawa response from public records and makes explicit where those records disagree; it distinguishes formal mandates from documented practice across five coordination functions and three institutional interfaces; and it condenses the findings into the Connected Federalism Coordination Framework, a case-derived diagnostic checklist of observable indicators that can be tested in further cases. Throughout, the analysis uses contribution rather than attribution language, because the records consistently show several actors influencing each documented result (Mayne, 2012).

2. Conceptual and Literature Background

2.1 Coordination in crisis management from command to connection

Early models emphasised hierarchical command, but studies of incident command systems show that even formally hierarchical structures operate in practice as networks in which authority is negotiated, information is distributed and performance depends on relationships built before the event (Moynihan, 2009; Jensen & Waugh, 2014). Waugh and Streib (2006) argue that collaboration and leadership, rather than command and control, characterise effective emergency management because the resources needed in a disaster are held by many organisations that cannot be ordered to cooperate.

Comfort (2007) frames effective crisis management as the interaction of cognition, communication, coordination and control, arguing that shared recognition of risk is the precondition for coordinated action. Kapucu (2006) shows that boundary-spanning individuals and organisations play a critical role in linking agencies during emergencies, and that the communication networks activated in a crisis often differ from formal reporting lines. Comfort and Kapucu (2006) find that coordination in extreme events depends on organisations adapting their interactions as conditions change.

More recent work treats fragmentation as a normal condition rather than a failure. Wolbers et al. (2018) argue that coordination in crisis management is better understood as an ongoing process of managing fragmentation across professional, organisational and temporal boundaries than as the

achievement of integration. Nohrstedt et al. (2018) conclude that collaboration aids information sharing and resource pooling but introduces transaction costs, accountability ambiguity and delay. Boin and Bynander (2015) add that crisis coordination should be judged against realistic expectations, since some degree of overlap and friction is inherent in multi-organisational response. This body of work suggests that the relevant question for Nigeria is not whether a single command structure exists but whether the connections between centres of authority function under pressure.

2.2 Federalism and multilevel emergency governance

Federal systems distribute emergency responsibilities across levels, typically assigning first response to local and state authorities and reserving federal involvement for events that exceed subnational capacity. This principle of escalation is intuitively sound but operationally demanding, because it requires agreed thresholds, timely information about local capacity and procedures for transferring or sharing authority (Kapucu, 2009). Birkland and Waterman (2008), examining Hurricane Katrina, argue that federalism was not in itself the cause of response failure; rather, failures arose from weak intergovernmental relationships, unclear expectations about which level would act and when, and a mismatch between the federal design and the realities of state and local capacity.

The literature on transboundary crises extends this argument. Ansell et al. (2010) identify the building blocks of an effective response system for crises that cross jurisdictional and functional boundaries: detection, sense-making, decision-making, coordination, meaning-making, communication and accountability. Christensen et al. (2016) argue that crisis management capacity depends on both governance capacity, meaning the ability to coordinate, regulate and deliver, and legitimacy, meaning public and institutional acceptance of the arrangements through which decisions are made. Boin and 't Hart (2003) note that expectations of crisis leadership exceed what any single leader can deliver, which favours distributed leadership.

Collaborative emergency management works as a network across levels and sectors whose effectiveness depends on prior relationships and shared understanding of roles (Kapucu et al., 2010), and it needs structures that let many actors contribute to decisions without paralysing action (Kapucu & Garayev, 2011). For a federal system such as Nigeria, these insights imply that the

formal assignment of mandates to federal, state and local bodies is necessary but insufficient; what matters is how decision rights are interpreted and exercised at each interface during an event.

2.3 Information and the shared operating picture

Information management is the coordination function most consistently linked to response performance. Comfort et al. (2004) demonstrate that the capacity of a disaster response system to adapt depends on the timeliness and accuracy of information flowing between its components. Bharosa et al. (2010), drawing on multi-agency field exercises, identify persistent obstacles to information sharing: differing information needs across organisations, uncertainty about who holds what data, and reluctance to share incomplete information.

The concept of a common or shared operating picture has become central to this literature. Wolbers and Boersma (2013) argue that a common operational picture should be understood not as a technical product but as a process of collective sense-making in which organisations negotiate the meaning of incomplete and sometimes contradictory information. Comes et al. (2020) identify a coordination and information bubble in humanitarian response, in which organisations generate and share information primarily with those already inside their coordination structures, leaving gaps between humanitarian and government systems.

Altay and Labonte (2014), examining humanitarian information management in Haiti, document problems of data fragmentation, incompatible formats, inadequate attention to local information sources and weak links between data collection and decision-making. In complex emergencies, access constraints and political sensitivities further shape what is known (Van de Walle & Comes, 2015). Work on Nigeria's health surveillance system makes a related point: surveillance data strengthen epidemic preparedness only when timely reporting is integrated with the institutions that plan and direct the response (Ogunboye et al., 2023). These studies indicate that the existence of several assessments is not in itself a coordination failure; the failure lies in the absence of a procedure for reconciling them.

2.4 Humanitarian architecture, logistics and the cluster/sector interface

International humanitarian coordination runs through sector or cluster arrangements intended to support, not replace, national authorities; competing mandates and donor requirements shape it, and vertical coordination with government is often weaker than horizontal coordination among

agencies (Balcik et al., 2010). Kovács and Spens (2007) distinguish preparation, immediate response and reconstruction phases in humanitarian logistics, arguing that the effectiveness of immediate response depends heavily on what was positioned and agreed during preparation.

Jahre and Jensen (2010) analyse the cluster concept as a mechanism for horizontal and vertical coordination in humanitarian logistics, noting that clusters can reduce duplication but may also create parallel structures if their relationship with national systems is not clearly defined. Hilhorst and Jansen (2010) conceptualise humanitarian space as an arena in which actors negotiate access, legitimacy and roles, rather than as a fixed domain governed by principles alone.

Moving relief over damaged links to the last mile is a recurrent constraint (Balcik et al., 2010); in floods, inundated roads decide which communities warehouses can reach.

2.5 Preparedness, contingency planning and the problem of fantasy documents

Preparedness is widely regarded as the stage at which coordination is either built or neglected. Perry and Lindell (2003) argue that emergency planning is a process of building relationships, training and shared understanding rather than the production of a document, and that plans are valuable to the extent that they shape organisational behaviour. McConnell and Drennan (2006) identify a tension between planning, which assumes predictability, and crises, which bring surprise.

Birkland (2009) introduces the concept of fantasy documents to describe plans that symbolise preparedness without reflecting realistic capacities or assumptions, and argues that lessons from disasters are frequently identified but not learned, because institutions lack mechanisms for translating after-action findings into changed practice. The concern is acute in federal systems, where national frameworks may set expectations that subnational bodies lack the means to meet. Kapucu (2008) argues that collaborative preparedness, including joint exercises and community engagement, improves both organisational and public readiness, but only where the participating organisations sustain their relationships between events.

The Sendai Framework pairs preparedness for effective response with stronger risk governance and coordination across levels of government (UNISDR, 2015). The practical question for this study is which elements of prior planning and simulation can be traced in the documented 2023 response, and which remained at the level of intent.

2.6 Flood and multi-hazard risk governance in Nigeria

Flooding is the most frequent and costly natural hazard in Nigeria. Umar and Gray (2023) review the occurrence and impacts of flooding across the country and note the combined influence of riverine, flash and urban flooding, inadequate drainage, land-use change and upstream dam operations. Echendu (2020) shows that recurrent floods undermine progress across several Sustainable Development Goals. The 2012 floods, which affected large areas of the Benue basin after releases from the Lagdo Dam, are widely cited as a turning point that exposed weaknesses in early warning and response coordination (Agada & Nirupama, 2015).

Institutional analyses have identified recurring weaknesses in Nigerian flood governance. Studies cite fragmented responsibilities, limited data and weak enforcement in Lagos (Nkwunonwo et al., 2016), and inadequate funding, poor inter-agency coordination and limited community involvement nationally (Oladokun & Proverbs, 2016). Olanrewaju et al. (2019) report an absence of organised and coordinated institutional structures for planning and responding to flood emergencies, with particular weaknesses in linking disaster management to the health sector. Adefisoye et al. (2023) conclude that the National Disaster Management Framework has not produced a holistic disaster management system, citing inter-agency rivalry, poor funding and limited political will, while Dairo (2023) attributes limited progress to under-resourced local government, skills shortages and slow access to emergency funds.

Floods also raise the risk of waterborne disease by disrupting water and sanitation systems (Olanrewaju et al., 2019). This multi-hazard dimension is central to the present analysis, because Adamawa in 2023 was managing flooding, displacement and disease risk at the same time.

3. Methodology

3.1 Design and analytical stance

The study is a structured documentary analysis combined with theory-building. Document analysis is an established qualitative method in which documents are treated as evidence of organisational activity, intent and representation, and are examined systematically through selection, appraisal and synthesis (Bowen, 2009). It suits a question about what institutions recorded at the time, and it makes the reliability of that record an object of analysis. Research in humanitarian crises has to adapt its methods to the constraints of the setting while keeping the rigour expected in other fields

(Smith & Blanchet, 2019). The adaptation made here is to build the whole evidence base from the dated public record of 2023: what issuing institutions chose to publish is the material analysed, and deliberations that left no public trace lie outside what the design can observe.

The analysis borrows the logic of process tracing to reconstruct the sequence from hazard signal through alert, assessment, coordination, resource mobilisation, delivery and review. Process tracing asks whether an observed sequence is consistent with a hypothesised mechanism (Beach & Pedersen, 2019). Here, the expected pathway is the escalation logic implied by Nigeria's national framework, in which local and state institutions respond first and federal and international support is drawn in as needs exceed local capacity. The observed pathway is reconstructed from dated records.

Because several actors contributed to each documented result, the study adopts the stance of contribution analysis, which seeks to establish a plausible account of how an intervention contributed to an outcome without claiming sole attribution (Mayne, 2012). This stance governs the language of the findings: where a record shows that an organisation provided supplies, assessments or meeting support, the analysis describes that contribution and does not credit the organisation with the overall outcome.

3.2 Corpus and inclusion criteria

The corpus comprises publicly available documents published no later than 31 December 2023. Documents were included if they were publicly accessible, dated, attributable to an identifiable issuing institution or author, and relevant to at least one coordination function. Table 1 registers every primary and grey document used as evidence. The register contains fifteen documents: two national legal and policy instruments, one international policy framework, one national capacity assessment, three operational records on the Adamawa flood, three agency situation and review records on the wider 2023 context, four publications issued by the federal agency on contingency planning and its information needs, and one press report. The conceptual frame and the interpretation of findings draw on 46 scholarly sources, comprising peer-reviewed journal articles, one peer-reviewed conference paper and one academic monograph, together with one methodological review issued by a research funder (Smith & Blanchet, 2019).

Table 1. Corpus register of primary and grey documents analysed

No.	Issuer	Document (short form)	Date	Document type	Analytical use
1	Federal Republic of Nigeria	National Emergency Management Agency (Establishment, etc.) Act No. 12	1999	Statute	Formal mandates of the federal agency and state committees; emergency fund (Section 4.1)
2	National Emergency Management Agency	National Disaster Management Framework	2010	National policy framework	State and local structures; implied escalation logic (Sections 4.1 and 5.1)
3	UNISDR	Sendai Framework for Disaster Risk Reduction	2015	International policy framework	Normative reference for preparedness and multilevel coordination (Section 2.5)
4	UNICEF	Adamawa flood response situation report	Period to 31 October 2023; published 9 November 2023	Agency situation report	Chronology, alert, coordination, impact figures, stocks, accountability (Sections 5.1 to 5.6)

No.	Issuer	Document (short form)	Date	Document type	Analytical use
5	International Organization for Migration, Displacement Tracking Matrix, with the Adamawa State Emergency Management Agency	Flash report on flood and heavy rainfall, Adamawa State	16 October 2023	Rapid assessment report	Affected population, needs, assessment timing (Sections 5.1, 5.3, 5.6)
6	CCCM, Shelter and NFI Sector Nigeria	Flood incidents report, Adamawa State	October 2023	Sector incident report	Onset, alert, displacement, deaths, funding (Sections 5.1 to 5.5)
7	UNICEF	Humanitarian situation report No. 1	Period 1 January to 30 June 2023	Agency situation report	Displacement, cholera, contingency plans, stocks, funding (Sections 4.2, 5.4)
8	UNICEF	Diphtheria outbreak situation report	30 November 2023	Outbreak situation report	Scale of the outbreak and the health-led coordination channel (Sections 4.2 and 5.2)
9	UNICEF	2022 flood response brief	Period August 2022 to June 2023; issued 2023	Response review brief	2022 season, feedback, anticipatory pilot (Sections 4.2, 5.1, 5.6)

No.	Issuer	Document (short form)	Date	Document type	Analytical use
10	Capacity for Disaster Reduction Initiative, National Emergency Management Agency and United Nations partners	National capacity assessment on disaster risk reduction	July 2012	Capacity assessment report	Baseline for state agencies, local relations, funding route (Sections 4.1, 5.4, 7.1)
11	National Emergency Management Agency	Sub-national review workshop on the National Contingency Plan, Makurdi	21 October 2022	Agency news release	Bottom-up review and state domesticatio n (Section 4.2)
12	National Emergency Management Agency	Keynote at the launch of the reviewed National Contingency Plan	27 November 2023	Agency speech	Risk analysis lineage; federal support to state plans (Sections 4.2, 5.2)
13	Nigerian Tribune	Report on the launch of the National Contingency Plan	27 November 2023	Press report	Zones covered and North-East plan pending; workshops with 22 state agencies; simulations (Sections 4.2, 5.2)
14	National Emergency Management Agency	Launch of the reviewed National Contingency Plan	30 November 2023	Agency news release	Multi-risk plan with flood focus; stated next priorities (Sections 4.2, 5.1)

No.	Issuer	Document (short form)	Date	Document type	Analytical use
15	National Emergency Management Agency	Visit of the UNICEF country representative	12 December 2023	Agency news release	Federal request for data, information management and coordination support (Section 5.3)

Two categories of material were excluded. Documents published after the anchor year were excluded even where they report on 2023 events, because their retrospective framing was not available to decision-makers; this removed the end-of-year situation reports covering 2023 and any later evaluation or after-action review. Material whose provenance could not be verified, such as impact figures circulating without an identifiable issuing institution or date, was also excluded. State government records, local government records and coordination meeting minutes for the period were not publicly available and so could not enter the corpus, a gap whose consequences are discussed in Section 3.4.

3.3 Coding frame and verification

Coding followed a two-stage procedure adapted from thematic analysis (Braun & Clarke, 2006). First, each document was coded deductively against seven categories drawn from Section 2: leadership, information, financing, logistics, access, participation and accountability. Second, these were consolidated into five coordination functions, and each passage was tagged by interface: local to state, state to federal, or government to humanitarian. Table 2 sets out the resulting coding frame, with a definition and an example indicator for each code.

Table 2. Coding frame with definitions and example indicators

Code	Definition	First-stage categories absorbed	Example indicator coded
Leadership and decision rights	Who convenes, who may decide and at which tier, and how escalation between tiers is triggered	Leadership	Statement naming the convening agency; a dated alert or escalation decision; a written threshold

Code	Definition	First-stage categories absorbed	Example indicator coded
Information management and shared operating picture	Production, exchange and reconciliation of impact and needs data across organisations	Information	Impact figure with its date, unit and denominator; reference to a shared or reconciled dataset
Sectoral alignment and resource mobilisation	Cross-sector prioritisation and the sourcing, terms and visibility of funds and supplies	Financing	Funding requirement or gap; joint assessment or response plan; stated source of supplies
Operational access and logistics	Physical and security conditions governing reach, and the positioning and release of stocks	Logistics; access	Coverage of affected areas; location of prepositioned stocks; reported access constraint
Accountability to affected people and learning	Participation and feedback of affected people, documentation of decisions and review of performance	Participation; accountability	Feedback mechanism; disaggregated beneficiary data; decision log or after-action review
Interface tag (applied to every coded passage)	Institutional boundary across which the coded activity passes	Not applicable	Local to state; state to federal; government to humanitarian

All coding was carried out by a single analyst. To contain the risks that this carries, every quantitative figure and every dated event reported in the findings was re-checked against its issuing document in a separate verification pass after coding was complete. A decision rule governed inference: a claim about performance or about causation is advanced only where at least two independently issued sources support it, and any finding that rests on one source is labelled single-source in the text or in the relevant table. An organisation's account of its own activity counts as one source under this rule, however many of that organisation's documents repeat it; the press report of the contingency plan launch, which relays a UNICEF representative's remarks, is therefore counted with UNICEF's own reports rather than as an independent source. The rule follows the logic of contribution analysis, in which a contribution claim is credible only when the evidence for each link in the account can be checked (Mayne, 2012).

3.4 Triangulation, contradiction handling and evidential limits

Every quantitative statement in the findings is linked to a primary record, with its reporting period and, where available, its denominator. Where records disagree, the disagreement is reported rather than resolved in favour of the figure that presents the strongest narrative. This principle reflects the argument that a shared operating picture is a negotiated product, and that divergent figures are themselves evidence about coordination (Wolbers & Boersma, 2013). Contradictions were classified as definitional (different units or populations), temporal (different reporting dates), geographic (different coverage) or unexplained, and Table 5 records each contradiction found, its classification and the treatment adopted.

The evidential limits are significant. Public situation reports are written for accountability and resource mobilisation, and they tend to emphasise the reporting organisation's activities (Altay & Labonte, 2014). They are assembled under time pressure for several audiences at once, so their figures carry the marks of that production work (Finn & Oreglia, 2016). Because state and local records were unavailable, the state and local perspective is visible mainly through documents produced by or with federal and international actors. Names of individuals, operational routes and security procedures are excluded, and the analysis remains at the level of institutional roles and functions.

3.5 Sensitivity to the anchor-year boundary

The anchor-year gate confines the analysis to the public record available while decisions were taken, which protects against hindsight but makes some conclusions sensitive to the boundary. The findings that no review of the Adamawa response was documented, that financing for the response was not publicly reported and that federal deployment terms were not visible could all change if later evaluations, after-action reviews or year-end reports were admitted, because documents of that kind are normally produced after the event they examine (Birkland, 2009). The divergence in impact figures could also narrow if a later reconciled dataset were admitted. Other conclusions would not change. The state-led convening arrangement, the placement of contingency stocks in government warehouses, the recorded inversion of onset and alert dates and the absence of a published alert threshold available to responders at the time are properties of the contemporaneous record; later documents could explain them but could not alter what was visible when decisions

were made. Throughout, absence from the dated record is treated as absence of evidence, not as evidence that a practice did not occur (Bowen, 2009).

4. Context of Nigeria's Federal Emergency Architecture in 2023

4.1 The legal and institutional map

The National Emergency Management Agency was established by an Act of 1999, which charges it with formulating policy on all activities relating to disaster management in Nigeria and coordinating plans and programmes for efficient and effective response (Federal Republic of Nigeria, 1999). The Act establishes, for each state, a State Emergency Management Committee chaired by the Deputy Governor, and it provides for a dedicated fund that receives a share of the Ecological Fund and allocations from the Federation Account (Federal Republic of Nigeria, 1999). The Act itself contains no detailed provisions on local government structures. The National Disaster Management Framework of 2010 extends this architecture by providing that each state shall establish a State Emergency Management Agency and by setting out parallel arrangements at local government level (National Emergency Management Agency, 2010).

Table 3 summarises the resulting institutional map as documented in the legal instruments and the 2023 operational records. Its purpose is to distinguish the formal mandate of each level from the role that the 2023 records show it performing.

Table 3. Legal and institutional map of emergency response in Nigeria as documented in sources dated to 2023

Level or actor	Formal basis	Formal mandate	Role documented in 2023 records
Federal: National Emergency Management Agency	Act of 1999; National Disaster Management Framework (2010)	Formulate policy, coordinate national response plans, mobilise resources, support state and local bodies	Published five zonal contingency plans, none for the North-East; launched the reviewed national plan; took part with ten other federal bodies in a preparedness simulation; reported national flood impact figures; issued flood alert

Level or actor	Formal basis	Formal mandate	Role documented in 2023 records
Federal: hydrological services	Sector mandate	Monitor river levels and dam releases	Monitored Lagdo Dam releases from August
State: Adamawa State Emergency Management Agency	State establishment required by the Framework; State Committee under the 1999 Act	Lead state preparedness and response, coordinate state actors	Coordinated state flood response; co-produced rapid assessment; reported displacement and deaths
State line agencies (for example rural water and sanitation agency)	State law	Sector service delivery	Held prepositioned WASH items; partnered on water and hygiene response
Local government areas	Framework provisions for local arrangements	First response, community mobilisation	Visible only as units of reporting; no public local records located
United Nations agencies and humanitarian sectors	Agreements with government; sector arrangements	Support government-led response; sector coordination	Contingency stocks, assessment support, sector reporting, weekly meeting participation
Civil society organisations	Partnership agreements	Community-level delivery	Supported displaced and affected communities as implementing partners

Two features of this map deserve emphasis. First, the 1999 Act creates state committees rather than state agencies, so the existence and powers of each State Emergency Management Agency depend on state legislation and political commitment, producing variation that national documents cannot resolve (Adefisoye et al., 2023). A national capacity assessment conducted with the federal agency found in 2012 that only 22 states had emergency management agencies backed by law, while some still operated relief agencies (Dia et al., 2012, p. 11). Second, local government is the least documented level: the Act defines no local structure, the same assessment found that relations between local government areas and the state and federal agencies were not formalised by any memorandum or law (Dia et al., 2012, p. 13), and the 2023 public record contains no local government reports, consistent with the view that local arrangements are the weakest link (Dairo,

2023). The architecture is therefore formally tiered but evidentially top-heavy: what is known about the response is known mainly from federal and international documents.

4.2 The 2023 multi-hazard landscape

The Adamawa floods occurred within a year of overlapping crises. In the north-east, approximately 2.2 million internally displaced persons remained in Borno, Adamawa and Yobe States at mid-year, with 42 per cent living in 276 camps, and the 2023 humanitarian response plan estimated that 8.3 million people in the north-east needed assistance (UNICEF, 2023d). Adamawa also hosted approximately 22,200 Cameroonian refugees by mid-year, including roughly 8,000 who arrived in early 2023, and non-governmental activities in the state were suspended for about a month during the gubernatorial election period (UNICEF, 2023d). These conditions meant that the flood response would draw on organisations and stocks already engaged in protracted crisis operations.

Disease outbreaks added a further layer. In Adamawa, 46 suspected cholera cases, including one death, had been recorded across five local government areas before the major dam release (UNICEF, 2023c). A diphtheria outbreak that began in late 2022 had, by the end of November 2023, produced 20,725 suspected cases, of which 12,505 were confirmed, and 570 deaths among confirmed cases across 35 states (UNICEF, 2023a). A government-led National Diphtheria Emergency Task Team was activated in September 2023, alongside a WHO-led inter-agency platform (UNICEF, 2023a).

The preceding flood season also shaped the 2023 context. The 2022 floods, described by UNICEF as the most devastating in a decade, affected an estimated 4.4 million people and displaced about 2.4 million, with limited early assistance reaching affected populations in Borno, Adamawa, Yobe and Benue (UNICEF, 2023b). That experience fed directly into 2023 preparedness. In October 2022 the federal agency and UNICEF began reviewing the National Contingency Plan at sub-national level through a bottom-up strategy, with the stated aim that states would domesticate the plan (National Emergency Management Agency, 2022). On 25 May 2023 the agency published five zonal contingency plans, for the North-West, North-Central, South-West, South-South and South-East, developed through workshops supported by UNICEF and informed by a 2022 risk analysis covering 12 risks including epidemics, flooding and armed conflict (UNICEF, 2023d). At the launch of the reviewed national plan on 27 November 2023, the agency stated that the risk analysis had guided the review and that it would focus on supporting states to develop their own

contingency plans (National Emergency Management Agency, 2023); the plan was described as multi-risk but particularly addressed to flooding (IkonAllah, 2023a). The same launch was reported as following workshops with state emergency management agencies from 22 states, with the equivalent exercise for the North-East zone planned for early the following year (Akintola, 2023). This sequence illustrates how Nigerian flood governance advances after major events rather than steadily (Agada & Nirupama, 2015).

5. Findings

5.1 Activation, escalation and the dated sequence

The first coordination function examined is activation: what event or decision triggered the response, and who had the authority to escalate it. The national framework implies an escalation logic in which local and state institutions respond first and federal support is drawn in when needs exceed subnational capacity (National Emergency Management Agency, 2010). The 2023 records allow a partial reconstruction of how this logic operated. Table 4 presents the dated sequence drawn only from records published in 2023, with contradictions flagged.

Table 4. Chronology of the 2023 Adamawa flood response reconstructed from dated records

Date	Event	Source	Note on consistency
14 to 28 August	Controlled release from Lagdo Dam at 200 cubic metres per second; monitoring by federal hydrological services	UNICEF (2023c)	Single source
17 September	Release increased to 650 cubic metres per second	UNICEF (2023c)	Single source
1 October onward	Release over more than two weeks after heavy upstream rainfall	UNICEF (2023c)	Single source

Date	Event	Source	Note on consistency
5 October	Flooding begins in Adamawa	CCCM, Shelter and NFI Sector (2023)	Single source for onset; precedes the alert date reported in two sources; unresolved (see Table 5)
5 to 9 October	Rapid assessment by IOM Displacement Tracking Matrix with the State Emergency Management Agency	International Organization for Migration (2023)	Assessment began on the reported onset date
7 October	Flood alert issued for Adamawa and downstream states	UNICEF (2023c); CCCM, Shelter and NFI Sector (2023)	Sector report attributes the alert to the federal agency
Second week of October	Multi-sectoral joint assessment and response planning scheduled	CCCM, Shelter and NFI Sector (2023)	Planned, not confirmed as held
9 to 31 October	UNICEF reporting period for integrated health and WASH response	UNICEF (2023c)	Response in 8 of 12 affected areas reported by UNICEF
16 October	DTM flash report published	International Organization for Migration (2023)	Figures differ from other sources (see Table 5)
9 November	UNICEF Adamawa situation report published	UNICEF (2023c)	Reports weekly coordination meetings under state coordination

Three observations follow from Table 4. First, the hazard signal was available well in advance: releases were monitored from August, and the September increase gave weeks of warning before the October releases (UNICEF, 2023c). Second, the records disagree about the relationship between onset and alert: the sector incident report dates the onset of flooding to 5 October, while both the sector report and UNICEF date the flood alert to 7 October (CCCM, Shelter and NFI Sector, 2023; UNICEF, 2023c). This may reflect localised early flooding, a distinction between state and national alerts, or a recording error; the records do not permit resolution.

The inversion is nonetheless what a warning system without measurable, pre-agreed thresholds would be expected to produce. Effective early warning links hazard monitoring to dissemination and response through specified rules, so that a given observation triggers a given communication to a defined population (Basher, 2006). Where no such rule exists, the decision to alert rests on discretionary judgement, and discretion tends to wait for confirmation that impact is under way; forecast-based approaches were developed to replace that wait with thresholds and actions agreed in advance (Coughlan de Perez et al., 2015). The Adamawa records document release volumes rising from 200 to 650 cubic metres per second (UNICEF, 2023c), but none of the three operational records states a release level, river stage or rainfall value at which an alert for named local government areas would be issued. A month after the floods, the federal agency itself listed state contingency plans and an early warning system among its next priorities (IkonAllah, 2023a). Under those conditions an alert can trail onset even when the hazard signal has been visible for weeks, consistent with the argument that escalation in multilevel systems depends on agreed thresholds (Kapucu, 2009). The 2022 anticipatory cash pilot, in which a warning issued five days before predicted flooding proved premature (UNICEF, 2023b), points to the same need from the opposite direction: a rule linking signal to action that is calibrated for the communities concerned. Because the onset date is single-source, Table 5 records the inversion itself as unresolved.

Third, there is no public record of a formal escalation decision, meaning a documented determination that the event exceeded state capacity. The records show federal alerting and reporting, international stocks and assessment support, and state leadership, but not the decision point at which these layers were activated. This is consistent with research showing that escalation in federal systems often occurs informally through relationships rather than formal declarations (Kapucu, 2009; Moynihan, 2009), and it means that the timeliness of activation cannot be measured against any visible standard.

5.2 Leadership and decision rights

The documented leadership arrangement in Adamawa was state-led. UNICEF reports that it worked within the coordination arrangement of the Adamawa State Emergency Management Agency and participated in weekly coordination meetings to avoid duplication (UNICEF, 2023c). The DTM flash report was produced in collaboration with the same agency, and the sector incident report draws on the state agency's latest figures for displacement and deaths (International

Organization for Migration, 2023; CCCM, Shelter and NFI Sector, 2023). Across the available records, there is no indication of a competing coordination structure; international and federal actors positioned themselves as supporting a state-led response.

The Nigerian literature often characterises state agencies as weak (Adefisoye et al., 2023; Oladokun & Proverbs, 2016); the Adamawa records do not contradict that view, but they show the state agency occupying its assigned convening role. Leadership meant convening, hosting assessments and anchoring figures rather than controlling resources, most of which came from federal or international sources, consistent with the argument that crisis leadership in networked settings rests on the capacity to convene and frame rather than to command (Boin & 't Hart, 2003; Waugh & Streib, 2006).

The records are less clear about decision rights between levels. The federal agency issued the flood alert and reported national figures, but the records do not show whether federal resources were deployed to Adamawa or on what terms. Nor do they show what role local government councils played in decision-making. The planning record sharpens this gap. The five zonal contingency plans published in 2023 did not include the North-East (UNICEF, 2023d), and the North-East exercise was reported at the November launch as still to come (Akintola, 2023). Adamawa therefore flooded in the one zone without a published zonal plan, so no pre-agreed zonal division of roles between state, federal and humanitarian actors is visible for this event. This finding is of moderate strength: the absence is stated consistently in two publications, but both carry UNICEF's account, the federal agency's own launch pages do not list the zones covered (IkonAllah, 2023a; National Emergency Management Agency, 2023), and absence of a published zonal plan does not establish that no state-level plan for Adamawa existed. This gap is significant because the ability of actors to agree decision rights is one of the conditions under which collaborative arrangements outperform hierarchical ones (Kapucu & Garayev, 2011). Where decision rights remain implicit, coordination depends on established relationships, which may not transfer to states with less humanitarian experience.

The multi-hazard dimension sharpens this point. The diphtheria outbreak was managed through a distinct, health-led structure of a national task team and a WHO-led inter-agency platform (UNICEF, 2023a), so flood and outbreak responses ran through different leadership channels. Ansell et al. (2010) argue that transboundary crises require coordination across functional as well

as jurisdictional boundaries; in Adamawa, where pre-flood cholera cases had been recorded, the potential intersection of flood and disease risk created exactly such a boundary, although the available records report no additional cholera cases linked to the flooding (UNICEF, 2023c).

5.3 Information management and the shared operating picture

Information management was the function in which coordination challenges were most visible. Three organisations published impact figures for the Adamawa floods in October and November 2023, and their figures differ substantially. Table 5 sets out the principal figures, their sources, the nature of each divergence and the treatment adopted here, and it also records the other contradictions found in the corpus, following the principle of reporting rather than suppressing contradiction (Wolbers & Boersma, 2013).

Table 5. Divergent impact figures and other contradictory evidence for the 2023 Adamawa floods, with nature of divergence and basis of resolution

Issue	UNICEF (2023c)	International Organization for Migration (2023)	CCCM, Shelter and NFI Sector (2023)	Nature of divergence	Treatment in this analysis
Affected people	Over 50,000; 50,461 in need	29,864 individuals in 5,189 households across 114 locations	LGA table totals not fully aligned with chart	Temporal and definitional: DTM assessed 5 to 9 October; later figures include subsequent flooding	Each figure reported with its date; no single total adopted
Displaced people	About 10,000 in 11 temporary camps, others with hosts	Not stated	51,043 individuals (8,504 households) in 11 temporary settlements	Definitional: camp population versus total displaced; scale difference partly unexplained	Both reported; inclusion of host communities treated as likely, not confirmed

Issue	**UNICEF (2023c)**	**International Organization for Migration (2023)**	**CCCM, Shelter and NFI Sector (2023)**	**Nature of divergence**	**Treatment in this analysis**
Deaths	33	275 casualties, not disaggregated	33, by local government area	Definitional: casualties may include injuries	33 used for deaths; 275 left unresolved
Affected local government areas	12, response in 8	Data tabulated by LGA	14 of 21	Geographic and temporal	Both counts reported with their source
Main needs	Health, WASH, nutrition	Food prioritised in 58 per cent of locations; shelter in 25 per cent	Shelter, NFI, camp management	Definitional: reflects organisational mandate	Not reconciled; read as mandate-shaped
Onset and alert dates	Alert on 7 October	Assessment from 5 to 9 October	Onset on 5 October; alert on 7 October	Temporal; unexplained	Reported unresolved; analysed as a threshold issue (Section 5.1)
Reach of hygiene sensitisation	3,000 women and children in one passage; more than 3,000 households in another	Not reported	Not reported	Definitional (unit of count) within one report	Neither figure used as a coverage measure

The divergence in Table 5 does not show inaccurate reporting; each figure reflects a different date, unit and organisational focus. Displacement figures differ by a factor of about five between the UNICEF count of people in temporary camps and the sector report's count of displaced individuals, but both refer to 11 temporary sites, which suggests that the difference lies in whether people sheltering with host communities were included. The casualty figure of 275 in the DTM report is

not disaggregated and may combine deaths and injuries, while the figure of 33 deaths appears in two separately issued sources.

What the divergence does show is the absence, in the public record, of a reconciled common dataset. Wolbers and Boersma (2013) argue that a common operational picture emerges from negotiation among organisations, and Comes et al. (2020) show that humanitarian information tends to circulate within coordination bubbles. In Adamawa, the state agency appears as the reference point for figures in two of the three sources, which suggests that a state-held picture existed, but it was not published in a form that allowed other actors to align their reporting. In December 2023 the federal agency sought partner support for its situation room, for data and information management and for coordination through its emergency coordination forum (IkonAllah, 2023b), which indicates that the gap was recognised at federal level. UNICEF's own report also contains an internal inconsistency, describing hygiene sensitisation as reaching 3,000 women and children in one place and more than 3,000 households in another (UNICEF, 2023c), which is why neither figure is used in this analysis as a coverage measure (Table 5). Such inconsistencies underline the need for agreed definitions and denominators (Altay & Labonte, 2014).

The records also do not show how or how quickly the alert reached local government areas and communities (UNICEF, 2023c). Transmission across organisational boundaries is where multi-agency systems most often fail (Bharosa et al., 2010), and delays reduce the adaptive capacity of the whole system (Comfort et al., 2004), so the timeliness of the local warning cannot be assessed.

5.4 Sectoral alignment and resource mobilisation

The coordination matrix in Table 6 summarises, for each principal actor, its documented role, information and resource contributions, the bottleneck visible in the record and the strength of the evidence. Where a cell would require inference beyond the 2023 records, it notes that the information was not documented (Bowen, 2009).

Table 6. Coordination matrix for the 2023 Adamawa flood response based on documented roles

Actor	Documented role	Information provided	Resource contribution	Bottleneck visible in record	Strength of evidence
National Emergency Management Agency	Alert, national reporting, preparedness planning	National impact figures; flood alert	Not documented for Adamawa	Escalation threshold and deployment terms not documented; no published North-East zonal plan	Moderate: alert reported by two issuers; zonal planning confirmed by the agency and UNICEF, North-East absence by UNICEF's account only; deployment not documented
Adamawa State Emergency Management Agency	Convened state response; co-led assessment	Displacement and death figures; assessment data	Not documented in public record	State records not publicly available	Strong: role confirmed by three separately issued records
State water and sanitation agency	WASH partner	Not documented	Prepositioned items from its warehouse	Not documented	Single-source (UNICEF)
UNICEF	Integrated health and WASH response in 8 of 12 areas; assessment support	Situation report; sector results	Contingency stocks in government warehouses; unearmarked funds	No funding requirement or targets reported	Single-source (self-reported)
IOM Displacement Tracking Matrix	Rapid assessment with state agency	Flash report on affected population and needs	Assessment capacity	Early timing limited coverage of later flooding	Single-source (self-reported)

Actor	Documented role	Information provided	Resource contribution	Bottleneck visible in record	Strength of evidence
CCCM, Shelter and NFI sector partners	Displacement tracking, site support	Incident report	Reception centre data	Response described as low owing to limited partner funding	Single-source (self-reported)
Civil society organisations	Support to displaced and affected communities	Not documented	Implementation capacity	Roles described only briefly	Single-source (UNICEF)

The final column of Table 6 shows that, apart from the state agency's convening role, which three separately issued records confirm, most documented roles rest on a single organisation's account of its own activity. Two further features stand out from the table. The first is the importance of pre-positioned and flexible resources. UNICEF reports that it used unearmarked humanitarian funding to deliver contingency stocks, that contingency stocks were held in government warehouses and that items had been prepositioned at the state rural water and sanitation agency's warehouse (UNICEF, 2023c). Earlier in the year, UNICEF had stocked WASH cholera kits worth US$1.6 million across the north-east states (UNICEF, 2023d). This is consistent with evidence that the speed of immediate response is set largely by preparation-phase decisions about where supplies are held (Kovács & Spens, 2007), and holding stocks in government warehouses links international resources to the state system at the point of storage.

The second feature is the uneven documentation of financing. The sector incident report describes the overall response as low and attributes this to limited partner funding (CCCM, Shelter and NFI Sector, 2023). UNICEF's report gives no funding requirement or gap for the Adamawa response (UNICEF, 2023c), although its mid-year report shows that its overall Nigeria appeal was 64 per cent unfunded (UNICEF, 2023d). There is no public record of state or federal expenditure on the response. This is consistent with Nigerian studies that identify slow and complex access to emergency funds as a persistent constraint (Dairo, 2023), and with the 1999 Act's reliance on a federal fund whose allocations to state-level operations are not publicly reported (Federal Republic of Nigeria, 1999). The 2012 capacity assessment described the route: the federal agency receives

a fifth of the Ecological Fund, the Vice-President's office can approve further expenditure where the agency's assessment shows need, and state agencies submit assessment reports to the state Ministry of Economic Planning, which decides on funding (Dia et al., 2012, p. 11).

Sectoral alignment ran through two parallel channels, state-led weekly meetings and humanitarian sector structures. The sector report anticipated a multi-sectoral joint assessment and response planning in the second week of October (CCCM, Shelter and NFI Sector, 2023), but the records do not confirm that it took place or what priorities it set. The needs profiles reported by different organisations reflect their mandates (Table 5). Cluster structures can reduce duplication but may reproduce mandates rather than consolidate needs (Jahre & Jensen, 2010); the Adamawa record shows no consolidated cross-sector prioritisation, leaving open how priorities were agreed when needs exceeded resources.

5.5 Operational access, logistics and supply positioning

Physical access shaped which communities were reached. The UNICEF response covered 8 of the 12 local government areas it identified as affected (UNICEF, 2023c). The records do not explain why the remaining areas were not covered, whether because of access, partner presence, the division of labour among agencies or the scale of need.

The sector incident report notes damage to roads, health facilities, schools and community facilities (CCCM, Shelter and NFI Sector, 2023), and the DTM report records transport among identified needs (International Organization for Migration, 2023). Logistics and access were therefore constraints, although the public evidence does not permit a quantified assessment of their effect.

Non-governmental activities had been suspended for about a month during the election period (UNICEF, 2023d); the flood records report no security restrictions, but access was negotiated in an arena already structured by conflict (Hilhorst & Jansen, 2010).

The positioning of supplies was the clearest point at which preparedness connected to delivery. The holding of contingency stocks in government warehouses and the prepositioning of WASH items at a state agency warehouse meant that the first supplies did not have to travel from distant hubs (UNICEF, 2023c). This arrangement reflects the principle that logistics preparedness is a coordination investment, because it requires agreements between organisations on storage, release authority and accountability before the event (Kovács & Spens, 2007).

5.6 Accountability to affected people and learning

The final function concerns accountability in two senses: accountability to affected people, meaning their participation in and feedback on the response, and institutional accountability, meaning the documentation of decisions, tracking of actions and review of performance. On the first, the Adamawa records provide limited evidence. UNICEF reports the distribution of 290 menstrual hygiene management kits to women and 450 household hygiene and dignity kits, and it names four civil society partners that supported displaced and affected communities (UNICEF, 2023c). The DTM report disaggregates the affected population into 5,839 men, 6,656 women and 17,369 children (International Organization for Migration, 2023). These figures show attention to gender and age, but not how affected people participated in decisions.

The preceding flood response provides a point of comparison. UNICEF's report on the 2022 floods records that feedback desks received 146 pieces of feedback, 65 per cent from women, and documents an anticipatory cash pilot in which a warning issued five days before predicted flooding proved premature, with floods arriving a month later (UNICEF, 2023b). That report documents learning by recording both results and limitations; no equivalent review of the Adamawa response was public by the end of 2023, so the learning cycle cannot be traced.

On institutional accountability, the public record does not show who documented key decisions, who tracked actions agreed in coordination meetings, or who would lead a review. Birkland (2009) argues that lessons are often identified but not learned because institutions lack mechanisms to convert after-action findings into changed practice, and Christensen et al. (2016) emphasise that legitimacy in crisis management depends on transparent accountability for decisions. In a federal system, who leads a review is itself a coordination question, since a review led by one level may not be accepted by others; the absent review mechanism is therefore a gap in the architecture, not a failing of one organisation.

6. The Connected Federalism Coordination Framework

Coordination in the Adamawa response depended on connections between levels and organisations: the state agency's convening role, stocks held in government warehouses, joint assessments and a regular meeting rhythm. The weaknesses lay in the same connections: unreconciled figures, undocumented thresholds, implicit decision rights and no review mechanism. This pattern supports the argument that federalism is not inherently a barrier to

emergency response (Birkland & Waterman, 2008), and it suggests that coordination capacity can be specified and measured at the interfaces between levels.

The Connected Federalism Coordination Framework condenses these findings into a diagnostic checklist instrument. It is derived from a single case and is offered as a structured set of questions for assessing coordination at federal interfaces, not as a validated general framework; its indicators require testing in further cases, hazards and states before wider claims can be made for them. It specifies five coordination functions, derived from the analysis, and three institutional interfaces: local to state, state to federal, and government to humanitarian. For each function it defines a minimum connection standard and observable indicators verifiable from documents, meeting records and data systems. It draws on the building blocks identified by Ansell et al. (2010) for transboundary crisis management, the emphasis on shared sense-making in Wolbers and Boersma (2013), and the logistics preparedness logic of Kovács and Spens (2007). It differs from them in tying each function to the interfaces of a federal system and in requiring indicators verifiable from records by institutions other than those assessed. Table 7 sets out the framework.

Table 7. Connected Federalism Coordination Framework as a diagnostic checklist with functions, interfaces and verifiable indicators

Coordination function	Minimum connection standard	Local to state indicators	State to federal indicators	Government to humanitarian indicators
Leadership and decision rights	Decision rights and escalation thresholds agreed before the event	Local focal point named; local activation criteria written	Written alert and escalation thresholds (release volume, river stage or rainfall) linked to named areas; documented escalation decision with date	Agreed statement of government lead and partner support roles
Information management and shared operating picture	One reconciled impact dataset with agreed definitions and denominators	Local situation reports submitted within an agreed interval	State dataset shared with federal agency; date of first reconciled figure	Joint dataset published; discrepancies logged with reasons

Coordination function	**Minimum connection standard**	**Local to state indicators**	**State to federal indicators**	**Government to humanitarian indicators**
Sectoral alignment and resource mobilisation	Consolidated cross-sector prioritisation and visible financing	Local needs fed into state assessment	Federal resources and terms documented; time from request to release	Joint response plan with sector targets; funding gap reported
Operational access and logistics	Pre-positioned stocks with agreed release authority and access plan	Stocks or distribution points within reach of priority areas	Release protocols for federal stocks; transport arrangements	Joint warehouse agreements; coverage of affected areas with reasons for gaps
Accountability to affected people and learning	Participation, feedback and review documented and acted on	Community feedback channels in affected areas; participation of women and persons with disabilities recorded	Decision log maintained; review lead agreed in advance	Joint after-action review published; action tracking at follow-up

Each indicator in Table 7 answers a finding. The leadership indicators respond to the onset and alert inversion by requiring a written threshold that links a measurable hazard signal to an alert for named areas. The information indicators respond to the divergent figures in Table 5 by requiring not identical numbers but a reconciled dataset with logged discrepancies, while the logistics indicators extend the clearest strength, stocks in government warehouses, to release authority and coverage gaps.

At its core, the checklist probes one construct that recurs across the coordination literature: decision rights, meaning who may decide, at which tier and on what evidence. Kapucu and Garayev (2011) identify agreed decision rights as a condition for collaborative arrangements to work, Kapucu (2009) ties escalation in intergovernmental systems to thresholds that say when a higher tier acts, and Ansell et al. (2010) treat decision-making as a building block that must be performed across jurisdictions. The leadership function operationalises this construct directly,

while the information, resource and review functions specify the evidence on which tier-specific decisions rest.

Before an event, the checklist converts contingency plans into verifiable commitments, addressing the risk of fantasy documents (Birkland, 2009); after an event, it structures a review that does not depend on any single organisation's account. The emphasis on verifiable indicators reflects the evidence that collaborative arrangements carry accountability risks when roles remain implicit (Nohrstedt et al., 2018).

Because flood, displacement and outbreak responses in 2023 ran through different channels, the information and leadership indicators are to be applied across hazards in the same jurisdiction (Ansell et al., 2010).

7. Discussion

7.1 Federalism as an operational asset

The central argument of this article is that federalism becomes an operational asset when authority, information and resources are deliberately connected before a crisis occurs. The Adamawa case offers partial support. The state agency's convening role gave the response a single reference point, international organisations positioned themselves as supporters of that leadership, and contingency stocks in government warehouses physically linked humanitarian and government systems. These arrangements suggest that the federal design can work as intended when the state level is functional and when partners accept its leadership (Waugh & Streib, 2006).

The case also shows the limits. Beyond alerting, reporting and planning, the federal role is not visible in the public record, and the framework's escalation logic could not be traced through documented decisions. This is consistent with Birkland and Waterman's (2008) finding that intergovernmental relationships, rather than the federal structure itself, determine performance. It also echoes the Nigerian literature's concern that national frameworks set expectations without the funding, political will and state and local involvement needed to meet them (Adefisoye et al., 2023; Olanrewaju et al., 2019). The connections themselves are not a new prescription: a national assessment recommended joint simulation exercises and joint response planning in 2012 and called on states to domesticate and practise the federal response plans (Dia et al., 2012, pp. 44, 46), and the absence of a North-East zonal plan in 2023 suggests that this domestication remained

incomplete in the zone that includes Adamawa. The policy implication is that investment in connections, such as written thresholds, shared datasets and pre-agreed stock release protocols, may yield more than investment in additional structures.

The separation of the health-led diphtheria structure (UNICEF, 2023a) from the state-led flood structure is a further vulnerability in a state with concurrent displacement and cholera risk. Christensen et al. (2016) argue that crisis governance capacity includes the ability to coordinate across sectors, and the Adamawa case suggests that this capacity needs to be built deliberately into Nigeria's multi-hazard arrangements.

7.2 Transferability beyond Adamawa

Some lessons are specific to Adamawa. The protracted north-east crisis had given the state an established international presence, sector structures and pre-positioned stocks, and its flood risk came from a transboundary dam whose releases could be monitored weeks ahead; arrangements that worked there may depend on a density of international presence absent elsewhere (UNICEF, 2023d).

Other lessons are more transferable. The value of placing contingency stocks within government warehouses, the importance of a single convening authority at state level, and the need for a reconciled impact dataset apply wherever several organisations respond to the same event. Where a hazard signal is available weeks in advance, as with dam releases, the limiting factor is its translation into local action, not detection (Comfort, 2007). The 2022 experience, in which limited early assistance reached populations in Borno, Adamawa, Yobe and Benue (UNICEF, 2023b), and the 2012 floods before it (Agada & Nirupama, 2015), suggest that this translation problem recurs across states and years.

The checklist in Section 6 defines indicators by function and interface rather than by context, so it is written to travel, although that remains to be tested. A state with weaker humanitarian presence would be expected to score lower on government to humanitarian indicators while the other interfaces remain applicable, allowing comparison across different baselines (Kapucu et al., 2010).

7.3 Limitations and validation agenda

Reliance on public documents means that state and local institutions are seen mainly through records produced by or with federal and international actors, which may overstate those actors'

role (Altay & Labonte, 2014), and what state and local institutions decided cannot be confirmed. The divergence in impact figures cannot be resolved without access to the underlying datasets. Coding by a single analyst was offset by a separate verification pass and a two-source rule, but it was not checked by a second coder. The year gate excludes end-of-year reviews and evaluations published after 2023, and Section 3.5 sets out which findings that boundary could affect.

These limitations set the validation agenda for the checklist instrument, and its first step requires evidence that the public record cannot supply. State and local government records, including meeting minutes, decision logs and budget documents, together with structured interviews with officials at each tier and with humanitarian coordinators, are needed to test whether the indicators capture what actually governed decisions and to complete the process-tracing reconstruction (Beach & Pedersen, 2019). Application to states with different humanitarian presence would test whether the Adamawa patterns depend on it, and piloting with government and humanitarian institutions would show whether the indicators can be populated from routine records. Engagement with affected communities would test the accountability indicators where the public evidence is weakest (Hilhorst & Jansen, 2010), and application to compound events would test the cross-hazard requirement, particularly the links between emergency management and health emergency structures (Ansell et al., 2010).

8. Conclusion

This article examined how responsibilities, information and resources moved between levels of government and humanitarian actors during the 2023 Adamawa flash-flood response. The record shows a response led in practice by the state emergency management agency, supported by federal monitoring and alerting and by international contingency stocks, assessment capacity and sector reporting. The strongest connections were the state agency's convening role, the joint production of assessments and the placement of contingency stocks within government warehouses. The weakest connections were the absence of a reconciled impact dataset, undocumented escalation thresholds and decision rights, limited public information on financing and an absent public review mechanism. The recorded onset of flooding two days before the formal alert, despite weeks of monitored dam releases, shows why a measurable alert threshold matters as much as the hazard signal itself. The Connected Federalism Coordination Framework translates these findings into a diagnostic checklist of verifiable indicators for five functions across three interfaces; derived from

one case, it is ready to be tested in others as an instrument for preparedness, monitoring and review. Nigeria's several centres of emergency authority can work together when their connections are built deliberately. Written thresholds, shared data, pre-agreed stock release and documented review are the practical means by which a tiered architecture becomes a coordinated one, and they are within reach of institutions at every level.

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