

ENHANCING DISASTER MANAGEMENT IN SIERRA LEONE

Driving African Capacity - Building in Disaster Management
(AFRICAB) Final Report 2021

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Dr Henry Bang

A highly motivated, enthusiastic and dedicated disaster risk management scholar and professional with more than 15 years experience in African disaster risk management. Henry has been conducting research on diversified themes in African disaster management since 2005, even before joining the Bournemouth University Disaster Management Centre (BUDMC) in 2016 as a research fellow. Dr Bang directs a GCRF project on Cameroon and has been a co-investigator on research projects examining West African countries like Nigeria, Ghana, Sierra Leone and Senegal. He has published extensively on African disaster risk management and related themes in prestigious peer reviewed international journals. Henry is a professional educator and researcher with experience in the higher education landscape of Cameroon and the UK after having studied and taught in the higher education sectors of both countries.



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Associate Lecturer with Bournemouth University Disaster Management Centre (BUDMC) since October 2015. Prior to that he served 33 years in the British Army, rising to the rank of Colonel. During his military career, he gained experience of working with foreign governments and international agencies, serving for three years as the Military Adviser to the Government of Sierra Leone and Commander of the International Military and Advisory Training Team (IMATT) in Sierra Leone 2011-13. He also served as a sector commander in a military observer mission in Mozambique 2014-15. Since joining BUDMC he has worked extensively on the development and delivery of disaster management education, training and exercises in the UK, Africa, the Middle East and the Caribbean. More recently, he has also taken part in disaster management research and capacity building activities in West Africa and the Caribbean.

Acknowledgements

This AFRICAB Final Report is the product of extensive cooperation with highly valued partners in Sierra Leone. First and foremost, the authors of the report would like to express their gratitude to Mr John Vandy Rogers and Mr Sinneh Mansaray, formerly Director and Deputy Director respectively of the Disaster Management Department (DMD) of the Office of National Security (ONS), and now Deputy Director General and Director respectively of Sierra Leone's National Disaster Management Agency (NDMA), for their unstinting support, cooperation and insights that have enriched the AFRICAB research project. No matter how busy, they have always been supportive. Even during the periods of contributing to governmental responses to COVID-19 waves and coordinating major incidents like the Susan's Bay fire in March 2021, they have been willing to engage with the ongoing AFRICAB research. The new NDMA continues to prove to be a valuable and generous partner in the research of Professor Lee Miles and Bournemouth University Disaster Management Centre (BUDMC).

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Appreciation is also extended to Lauren Jarrad, BUDMC Manager, for her expert editorial and copy-editing efforts that have contributed greatly to the presentation and style of this AFRICAB Final Report.

Professor Lee Miles, Dr Henry Bang and Mr Jamie Martin (BUDMC)

Acronyms

AAR	After Action Reviews
AFRICAB	Driving African Capacity Building in Disaster Management
BUDMC	Bournemouth University Disaster Management Centre
CDMC	Community Disaster Management Committees
COVID	Coronavirus disease
DDMC	District Disaster Management Committees
DiCOVERC	District COVID 19 Emergency Centre
DM	Disaster Management
DMD	Disaster Management Department
DRR	Disaster Risk Reduction
EPA	Environmental Protection Agency
EVD	Ebola Virus Disease
EWS	Early Warning System
FCC	Freetown City Council
GCRF	Global Challenges Research Fund
GIS	Geographical Information System
HAZMAT	Hazardous Materials
IT	Information Technology
LDC	Least Developed Country/Less Developed Country
MC	Main challenges
MOU	Memorandum of Understanding
NaCOVERC	National COVID- 19 Emergency Response Centre
NDMA	National Disaster Management Agency
NERC	National Ebola Response Centre
NFF	National Fire Force
NGO	Non-Governmental Organisations
ODK	Open Data Kits
OECD	Organisation of Economic Cooperation and Development
ONS	Office for National Security
PI	Public Information
RC	Risk Communication
RSLAF	Republic of Sierra Leone Armed Forces
SDG	Sustainable Development Goals
SLP	Sierra Leone Police
SLMet	Sierra Leone Meteorological Agency
SM	Social Mobilisation
SOPs	Standard Operating Procedures
SPOF	Single Points of Failure
TWG	Technical Working Group
UK	United Kingdom
UNDP	United Nations Development Programme
VHF	Very High Frequency



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FOREWORD

This AFRICAB Final Report represents the positive outcome of several years of fruitful and continuing cooperation between Bournemouth University Disaster Management Centre (BUDMC) and officials of Sierra Leone's disaster management authorities under the auspices of the Driving African Capacity-Building in Disaster Management (AFRICAB) project.

Since its launch in November 2020, I am pleased to say that the country's new National Disaster Management Agency (NDMA) has continued to cooperate with the Centre and with Professor Lee Miles in particular. I thoroughly welcome the long-standing and ongoing commitment of Professor Miles and his team to working with partners and stakeholders in Sierra Leone. With the challenges of addressing climate change agendas, handling the impact of the COVID-19 pandemic as well as steering recovery after the traumatic Susan's Bay fire incident in March 2021 still ongoing, working alongside committed partners such as Bournemouth University remains as important as ever.

The AFRICAB project has already produced many important outcomes. There can also be little or no doubt that this Final Report offers many further useful insights and recommendations for the NDMA and other disaster management related institutions and stakeholders in Sierra Leone to consider and take forward into the future. In particular, this Final Report offers key recommendations that are drawn from findings from over three years of rigorous research, observation and evaluation of the evolving disaster management system of Sierra Leone and which are based on careful reflections.

With its focus on 'enhancing disaster management', I am pleased to note that the authors highlight many positive actions and progressive steps that have been taken in recent years to improve our country's disaster management capacity at both the national and local levels.

Moreover, through its application of innovative research techniques, this Final Report is also highly valuable in focusing on 'resolvable single points of failure'. The authors identify key areas where there is an evidenced consensus and a strong potential for developing initiatives that are likely to produce timely and realistic improvements in disaster risk reduction, response and recovery in Sierra Leone. The strength of this report, in my view, is that it shows how applied academic research can lead to and shape viable policy recommendations that policymakers and stakeholders can regard as realistic and affordable options for the future.

The report is a useful addition and asset that can inform future policy and debates as we work together to develop a robust and successful disaster management system for Sierra Leone that meets the rising challenges of the 21st century.

A handwritten signature in black ink, appearing to read 'B Sesay', is positioned above the name of the Director-General.

Lt Gen (Rtd) Brima Sesay
Director-General
NDMA

30 August 2021

As Director of the Driving African Capacity Building in Disaster Management (AFRICAB) project, I welcome you to this AFRICAB Final Report.

The aim of this Final Report is to present key findings and evidence drawn from extensive research undertaken across Sierra Leone that considers how disaster management can be further enhanced and offer key recommendations and action points for policymakers and wider stakeholders.

I am pleased to say that the AFRICAB project, funded by the UK's prestigious Global Challenges Research Fund (GCRF) over the last three years has already produced many notable outcomes, including the production and delivery of a practice-based Facilitators Guide to Disaster Management that is now integrated into disaster management planning, training and practice across Freetown. AFRICAB has also proved a resounding success and is testimony to the active partnership and cooperation that exists with Sierra Leone's disaster management institutions, such as, the National Disaster Management Agency (NDMA). As Director of AFRICAB, it is fair to say that the level of cooperation and access that I have enjoyed has been unparalleled in my thirty-year career in running disaster management research projects.

Hence, this Final Report benefits from comprehensive participation from all tiers of disaster management governance over a considerable period of time and in a wide variety of formats and forums. AFRICAB researchers have enjoyed access to and discussions with officials working at the highest levels of national governance through to direct interactions with community leaders and volunteers at the ward and district levels. Sincere thanks is, once again, extended to our partners in Sierra Leone for working with the BUDMC so actively.

This Final Report is also distinctive in both an academic and practice sense in offering a systematic and evidenced overview of disaster management utilising Single Points of Failure (SPOF) concepts, diagnostics and techniques. It perhaps represents the first comprehensive study of Sierra Leone's existing disaster management arrangements and practice utilising this approach in significant detail and depth. SPOF techniques has been honed by Bournemouth University Disaster Management Centre (BUDMC) and have now been accepted by international institutions, such as the World Bank, as a valuable analytical approach and even toolkit. To date, the BUDMC's SPOF approach has been applied not just here to Sierra Leone but also in BUDMC studies and activities in the Caribbean and the Middle East. The advantage of focusing on SPOF is that it is a key approach that is easily understood by both academics and practitioners alike and indeed, offers a common dialogue and agenda on which to base future actions now and in the future. A systematic understanding of SPOF represents not just a reality check for disaster managers and policymakers on where they are today; it also provides opportunities to refine future pathways for the enhancing disaster management in Sierra Leone in the future.



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Executive Summary

The Driving African Capacity-Building in Disaster Management (AFRICAB) Final Report recognises that significant progress has been made in recent years aimed at improving the disaster management (DM) system of Sierra Leone, including the passing of new legislation in 2020, the establishment of a dedicated National Disaster Management Agency (NDMA) in November 2020 and the continuing development of a successful pillar-system for the coordination of disaster response. There have also been further initiatives in disaster risk reduction (DRR) planning and investments in early warning systems (EWS). Major progress has also been made at the local level, including new initiatives by Freetown City Council (FCC) to develop new standard operating procedures for disaster response and the creation of minimum training requirements for local councillors and disaster managers since 2020. Nevertheless, using innovative Single Points of Failure (SPOF) diagnostics and techniques, refined at Bournemouth University Disaster Management Centre (BUDMC) and based on research involving 559 participants over the period September 2018 to July 2021, this Final Report also confirms that there remain many relatively manageable areas, such as technical, procedural, human, physical and economic issues that have large and detrimental consequences for effective DM in Sierra Leone. This AFRICAB Final Report highlights that:

- There are numerous areas where SPOF still exist that inhibit the implementation of effective DRR.
- There are 12 notable areas where SPOF exist that are likely to lead to the breakdown of part of or all of the DM system, particularly during disaster response and recovery.

- There are areas of SPOF that are clearly and commonly identifiable by both national and local actors and stakeholders and thus there is a firm basis for concerted future action and initiatives.
- There is also strong agreement among national and local actors and stakeholders that the 12 identified areas of SPOF are interlinked. They have severe and scalable consequences damaging both the effectiveness of one area of action and also impacting negatively across the many areas of the DM system simultaneously.
- There is a remarkably high level of consistency and consensus between national and local actors and stakeholders as to the top SPOF areas and also those that are resolvable and fixable over the short to medium term (within 5 years). There is also then a notable consensus on which to build future action and initiatives.

This AFRICAB Final Report offers 8 recommendations for future action focusing on addressing technical, coordination, communication, capacity-building, procedural, human, physical and economic areas of SPOF. Each of these recommendations also includes specific and immediate action points for consideration by policymakers and stakeholders in Sierra Leone.

By focusing on practical initiatives, the intention is that this AFRICAB Final Report can contribute in helping national and local disaster managers, policymakers and stakeholders on their journey towards further enhancing the DM system of the country.



Chapter 1

Introduction

“Freetown’s topography makes it vulnerable to experiencing landslips and mudslides.”

Sierra Leone, a small West African country with a rich and complex history, is simultaneously grappling with numerous challenges from a DM perspective.

On an annual basis, the country endures a dry season (November to April) that brings with it hazardous incidents of bush and urban fires as well as acute water shortages, and a rainy season (May to October), fuelled by one of the highest propensities for rainfall in Africa, that presents recurrent challenges of flash floods, mudslides and land slippage. The capital of Freetown as well as many of the country’s other major urban conurbations have suffered significant flooding in recent years. In addition, Freetown’s topography makes it vulnerable to experiencing landslips and mudslides. The most recent example of this was the mudslide incident in Regent in 2017 that led to the estimated loss of over 1,000 lives.

Moreover, with a poverty stricken and rapidly expanding population, combined with porous borders with neighbouring Liberia and Guinea, the country has also experienced major health-related emergencies. For instance, Sierra Leone was one of the countries worst affected by the 2014–2016 outbreak of Ebola Virus Disease (EVD) in West Africa, which was the largest and most complex Ebola outbreak since the virus was first discovered in 1976. There were more cases and deaths in this outbreak than in all others combined. Most recently, the country has endured waves of outbreaks of COVID-19, with a 12-month state of national emergency declared in March 2020.

Alongside this, the country is also at the forefront of experiencing direct and indirect impacts of climate change, that bring stronger likelihoods of drought, fires and water shortages during the dry season and of flooding during the rainy season. The situation is best summarised as one of an expanding population facing an increasing frequency of emergencies throughout the year. Thus the demands on the country’s nascent and evolving DM system and its officials are onerous and continue to grow (Miles, 2020).

For the most part, however, efforts to adopt western-style models of DM have been much less successful than would at first appear. In general, the adoption of western-derived frameworks that often require sophisticated institutional arrangements, expensive financing, and intensive human capital resourcing and maintenance, do not sit well in developing countries where resources are scarce and institutional systems remain nascent. Above all, there is a need for any DM system adopted in Sierra Leone to recognise the varied situation that pertains in the country, including a very diverse cultural environment, a complex political climate, differing social atmospheres, and the challenges of scarce financial, social and human resources. These factors ultimately combine to ensure that DM in Sierra Leone has tended to be more reactive and focused on responding to changing events rather than being proactive and more engaged in disaster prevention and mitigation.

1 “Sierra Leone faces a wide array of risk and vulnerability to both natural and anthropogenic disasters.”

Contemporary challenges confronting DM officials and stakeholders in Sierra Leone are extensive and almost seem too numerous or frequent to bear. Moreover, potential solutions are often assumed to lie beyond the reach of the often very capable hands of the country’s disaster managers. Nonetheless, it is also the case that many of these challenges can still be resolved and lie within the operational realities of the existing DM capabilities and capacities of Sierra Leone. However, these challenges, if not resolved, are likely to lead to major failures and thus require urgent attention and action, especially where preventative solutions are within everyday reach of much of the population.

Sierra Leone faces a wide array of risk and vulnerability to both natural and anthropogenic disasters. Thus, the AFRICAB project also assumed an ‘all-hazards approach,’ focusing on an analysis of the DM system covering a wide variety of challenges, hazards and threats. The high concentration of a large proportion of the country’s population

(an estimated eight million in 2020) in the rapidly expanding Freetown and western peninsula area also heightens vulnerabilities since the urban expansion has been largely unregulated. Freetown’s 68 fire and flood-prone informal settlements (including numerous hillside communities that are vulnerable to landslides) can easily become isolated and/or cut off from governmental and responder services (see Miles, 2021). The country is also afflicted with high levels of poverty¹, with communities often suffering from weak infrastructures and limited and/or lack of access to safe sources of electricity or potable water. At the same time, the DM system, providers and indigenous stakeholders are often insufficiently resourced to meet these numerous and annual challenges. In fact, they are highly “resource challenged” in terms of infrastructure, equipment and manpower. DM capabilities, as well as spending on emergency responders, have traditionally been a relatively low priority and often rely on the generosity of international donors.

¹ Sierra Leone continues to be designated as a least developed country (LDC) by the Organisation of Economic Cooperation and Development (OECD)



In Sierra Leone, DM is distinctive. Sierra Leone's DM system is required to accommodate a complex array of components, including multiple levels of decision-making, along with a wide variety of stakeholders, all of whom are drawn from a rich tapestry of social groups reflecting a diversity of ethnic, linguistic, religious and regional backgrounds, and corresponding variations in local perspectives as to their specific vulnerabilities.

This complexity is added to by national governmental structures where political rivalries can hinder the effectiveness of day-to-day governance and risk reduction. In addition, a culture of decision-making being pushed up to the highest levels and an aversion to delegating authority and to risk-taking can dominate and delay crisis response to the detriment of autonomy at more operational levels and to timely and effective action in response to a crisis or disaster. Furthermore, regular political elections can lead to significant changes in key personnel which in turn affect levels of available DM experience and expertise.

Nevertheless, the importance of DM is formally recognized at nation state level and there have been progressive developments to improve the legislative frameworks underpinning the DM system in Sierra Leone. A succession of legislative acts have been passed and a framework has been developed that continues to improve the DM apparatus and structures in the country. Most recently, and during the delivery of this project, Parliament approved new legislation (the 2020 National Disaster Management Agency Act) that seeks to enhance the planning and coordination capacity at the national governmental level and improve DRR in line with UN Sendai Framework commitments. The subsequent creation of the new, dedicated and independent National Disaster Management Agency (NDMA), launched in November 2020, embodies a greater enthusiasm to refine DM planning and delivery at the nation state level. Indeed, it is important to recognise that substantial progress has continued to be made in improving the DM system over recent years. Indicative examples include:

- *Expansions in physical capacity.* The development of the new NDMA has been supported with World Bank financing that has enabled the NDMA to open a dedicated building in Freetown in 2021.
- *Major investments in data management and information technology (IT) systems,* such as Open Data Kits (ODK), phones, and tablets to improve data collection capacities supported by the start of related training of stakeholders in 2021.
- *Improvements in DRR planning,* including the devising of specific medium term plans for DRR, preparedness and response at the national and local levels in 2021 (NDMA, 2021).
- *Ongoing enhancement of early warning capacities,* such as strategic investments (new remote sensing, hardware and



“Sierra Leone’s emergency management professionals are committed to further improvements”

software packages funded by the United Nations Development Programme (UNDP) in the capacity of the Sierra Leone Meteorological Agency (SLMet) in July 2021 to assist climate and oceanographic monitoring.

- *Continual refinements to disaster response arrangements by the NDMA*, including, for instance, the pillar coordination system for disaster response that was implemented successfully during the Susan’s Bay fire incident in March 2021. There have also been notable initiatives at the local level, especially in the case of Freetown, to enhance local DM capacities since 2020 that, for example, enabled FCC to successfully handle 14 major fire incidents in Spring 2021.
- *A stronger focus on recovery*. This has included the implementation of After-Action Reviews (AARs), coordinated by the NDMA, to identify important lessons from incidents and emergencies. There have also been positive developments in coordinating recovery planning between national and district ministries, departments and agencies, as evidenced with the workings of the Technical Working Group (TWG) that considered integrated options for the recovery of Susan’s Bay in April-May 2021.

The transition to an enhanced DM system is thus clearly underway. In 2021, Sierra Leone’s emergency management professionals are committed to further improvements and harnessing greater financial investment in disaster management. In addition, the country is the recipient of significant levels of international aid and is involved in extensive international cooperation, both bilaterally and multilaterally. However, there remains a need for strong national leadership and commitment to ensure that such commitment and investment leads to greater resilience over the coming decade.



Aim and Objectives

This AFRICAB Research Final Report, led by Professor Lee Miles from the BUDMC and funded by the United Kingdom (UK)'s Global Challenges Research Fund (GCRF), is based upon a comprehensive set of critical data developed from detailed ground-research visits and key interviews on the architecture, organizational structures and performance of Sierra Leone's DM system over the period 2018-2021.

Aim: The aim of this AFRICAB Final Report is to present findings, reflections and recommendations that address the identified local and urgent needs that have been repeatedly expressed by national and local disaster managers in Sierra Leone.

Objectives:

1. To offer research findings that are compatible with demands in Sierra Leone to meet and move forward with UN Sustainable Development Goals (SDGs).
2. To provide findings and reflections that can inform actions and further refine the activities of policymakers in Sierra Leone as they seek to identify deficiencies and offer solutions that will improve DM governance and capacity (SDG 16.A).
3. To generate practical recommendations that can contribute to increasing the agility of policymakers through research, knowledge exchange and co-creation with partners in Sierra Leone.

Structure

The AFRICAB Final Report is made up of five chapters. Chapter 1 provides an Introduction whilst Chapter 2 presents the Concepts, Methodology and Methods that underpin the research findings. Chapter 3 presents the key selected findings and results that have

pertinence for national and local policymakers in Sierra Leone. Chapter 4 considers the categorisation of resolvable SPOF for future action to deliver quick and timely wins. Chapter 5 offers conclusions and recommendations for action.

1





Chapter 2

Concepts, Methodology & Methods

“SPOF are intrinsically linked to failures”

A distinctive feature of the AFRICAB project is that it seeks to present findings based on a clear identification of the main challenges that exist in the DM systems and practices currently in place in Sierra Leone using a SPOF diagnostic analysis. Chapter Two introduces the underpinning definitions as well as the main conceptual and diagnostic analytic tools that act as key lenses when interpreting the data.

Concepts

Two principal concepts underpin the analysis undertaken in this AFRICAB Final Report. These concepts are referred to as ‘Main Challenges’ (MC) and ‘Single Points of Failure’ (SPOF):

MC refer to the identification of issues and/or areas that have impacted or will impact substantially on the full functioning of the DM system now or in the future. These MC are perceived by disaster managers as notable in influencing both the development and the delivery of fully functioning disaster management. MC are intrinsically linked to levels of functioning.

SPOF refer to a specific failure within a place (situation/location), entity (organization, team or individual) or process (policy, plan, process or procedure) leading to the breakdown or paralysis of part or all of the DM system at any point in time in the DM cycle. It takes the analysis of MC a step further, since it highlights those deficiencies that also have extreme criticality; namely a SPOF has a very strong likelihood and a high propensity for failure of part or all of the DM system itself.

SPOF are intrinsically linked to failures (see breakout box).

SINGLE POINTS OF FAILURE (SPOF) DEFINITION

Specific failures within a place (situation or location), entity (organisation, team or individual) or process (policy or procedure) leading to the breakdown or paralysis of part or all of the DM system at any point in time in the DM cycle.

As a technical approach, SPOF diagnostics and techniques initially arose from the fields of supply chain management (Lynch, 2009) and the interconnected study of resources and IT management (Wolf, 2004). SPOF have now achieved wider recognition in terms of fields of governance and are central to identifying and reducing resistance and extreme criticality to resilience building (Bang, Miles and Gordon, 2018; 2019a; 2019b; Hempel et al., 2018).

The value-added effect of understanding those areas and issues of a DM system that represent potential or real SPOF is that it is possible to indicate those MC that are so extreme that they have highly disproportionate and detrimental effects on DM governance, systems and practice. SPOF are so critical that they can have sizeable, dramatic and paralyzing effects on part or all of the DM system covering part or all of Sierra Leone.

Figure 2.1: AFRICAB Conceptual Process of SPOF Diagnostics

Put simply, they are likely to result in failures. So while there can be numerous MC that can impact on the functioning of DM to various degrees, we need to go beyond this. We need to delve deeper into those MC that are also real or potential SPOF and have a strong likelihood of resulting in the part or complete failure of the DM system in Sierra Leone.

The value of the SPOF diagnostic tool is that not only is it academically robust, but also that it provides an accessible conceptual framework that can be commonly understood by policymakers. SPOF concepts and diagnostics have also been proven by the BUDMC within their externally funded research into DM elsewhere in Africa as well as in the Caribbean. This report therefore draws upon a proven diagnostic framework that can

give policymakers quality assurance that the recommendations offered in this report are based on a peer-reviewed and tried and tested process of analysis and diagnosis.

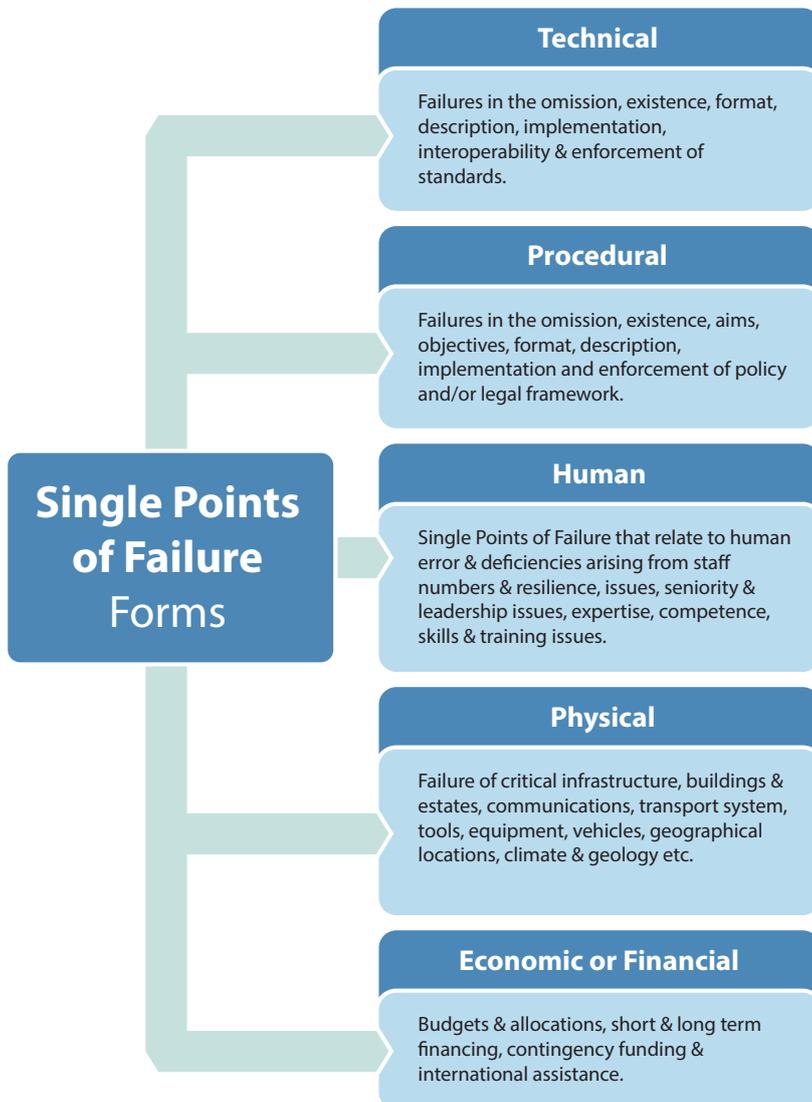
There is therefore considerable merit in employing SPOF concepts to inform technical assistance within DM operating systems and for relevant organisations and stakeholders. Understanding and addressing specific SPOF is especially helpful when general levels of resourcing remain scarce, challenging and highly dependent on limited reservoirs of technological, social and human capability. By recognising SPOF, and thereby tailoring the subsequent policy actions, there is an enhanced possibility of turning current failure into future success (see Figure 2.1).



It is important to highlight that not only can the use of SPOF diagnostics inform and assist disaster managers to handle the real and tangible challenges confronting them in Sierra Leone, but it can also help to focus on and identify the respective control measures that can remove or resolve SPOF or, at least, seek to alleviate and reduce the inherent risks of SPOF.

Control measures need to focus on addressing particular forms of SPOF. As Figure 2.2 indicates, SPOF can take numerous forms, including:

Figure 2.2: Forms of SPOF²



Methodology

The methodology supporting this AFRICAB Final Report can be likened to a combination of two 'Lenses'.

Lens 1: The first lens comprises the Main Challenges (MC) analysis. This identifies and categorises the various types of challenges facing Sierra Leone's DM system that are regarded by disaster managers, policymakers and key stakeholders as impacting to various degrees on the DM system and/or competency framework in the country. The authors gathered information and data from disaster managers and stakeholders country-wide at both the national and local levels on their risk perceptions, as well as interpretations of existing general and specific challenges.

Lens 2: The second lens comprises the SPOF analysis where the disaster managers, policymakers and stakeholders were asked to identify and comment upon potential and real SPOF guided by diagnostic concepts developed as part of Bournemouth University's inductive SPOF approach. This diagnostic tool assists disaster managers to understand the impacts of SPOF and how better to develop strategies and control measures to confront and handle them. This builds on the initial challenge-based analysis by identifying and defining the specific deficiencies that have disproportionately large and detrimental impacts and could lead to failures within Sierra Leone's DM system.

Essentially, it is important to recognise that not all SPOF are perceived by disaster managers and stakeholders as having the same likelihood and/or severity of impact. In simple terms, some SPOF are deemed to have a greater likelihood of happening and would have more severe implications for a particular area of disaster management. For example,

² Note: Alongside identification of SPOF form there is a need to consider interrelationships. SPOF forms are often highly interlinked.

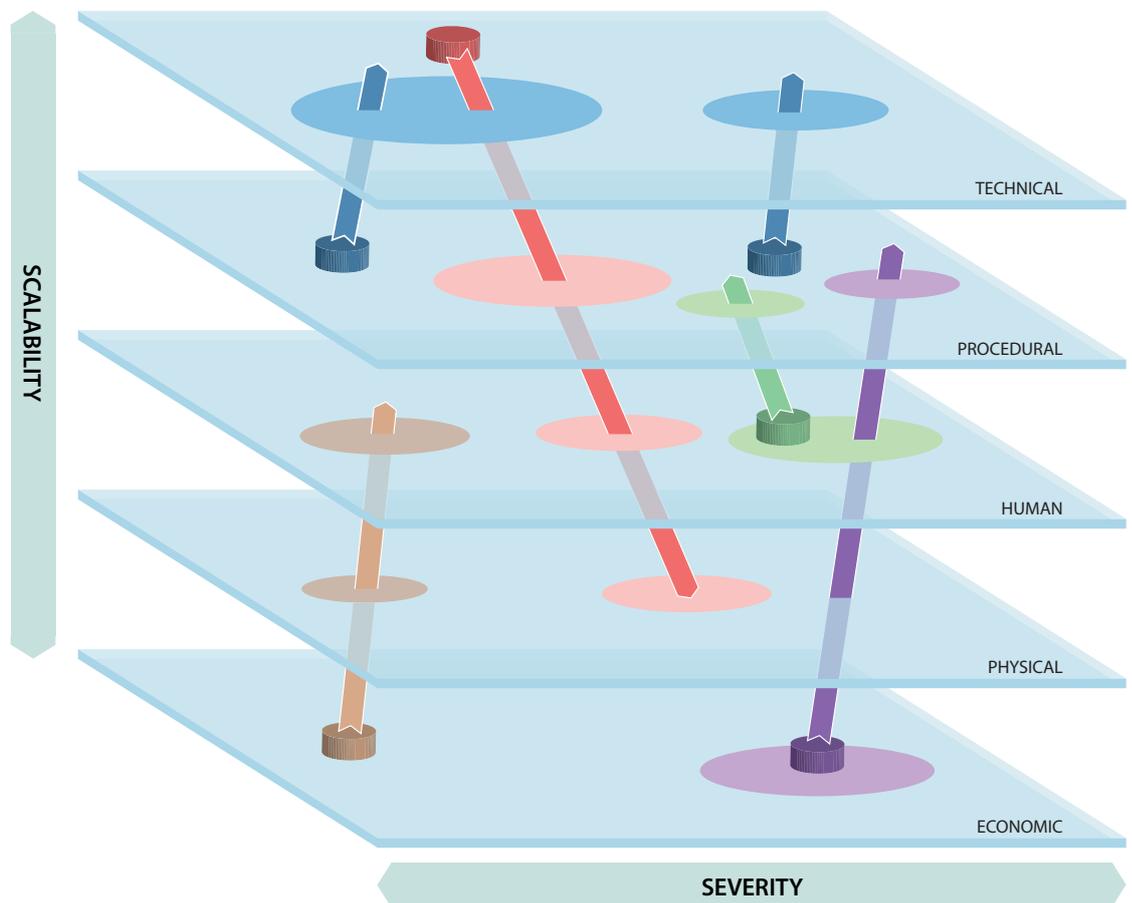
the destruction of mobile phone masts on the hills of Freetown due to high winds or rainfall induced landslides will lead to major 'dead spots' in the communication network that will make communication in that part of the capital highly difficult given the lack of other alternatives. Hence, perceptions of the determinants of a SPOF include understanding estimations of their severity within one area of DM activity.

In addition, how scalable a SPOF is perceived to be is also significant in terms of the ability of that specific failure in one area to transcend and lead to major accompanying challenges and failures in other parts of the DM system. Thus the loss of mobile phone connectivity and capacity will impact not just on the communication network, but also could lead to scalable failures that transcend into other areas of disaster management; so if disaster

responders are heavily reliant on mobile phones for communication then this will inhibit the speed, response and coordination of the emergency services. In other words, SPOF are assessed in terms of their **severity** and of their **scalability**:

- **Severity.** The degree to which a SPOF affects an area of the DM system and the extent to which it will in itself lead to the breakdown of part or all of the system (vertical – within an area/policy field).
- **Scalability.** The degree to which a SPOF in one part of the DM system has repercussions that scale and transfer across to other parts and domains of the DM system, that may in turn lead to an eventual breakdown of that system (horizontal – across area/policy fields).

Figure 2.3: Severity & Scalability



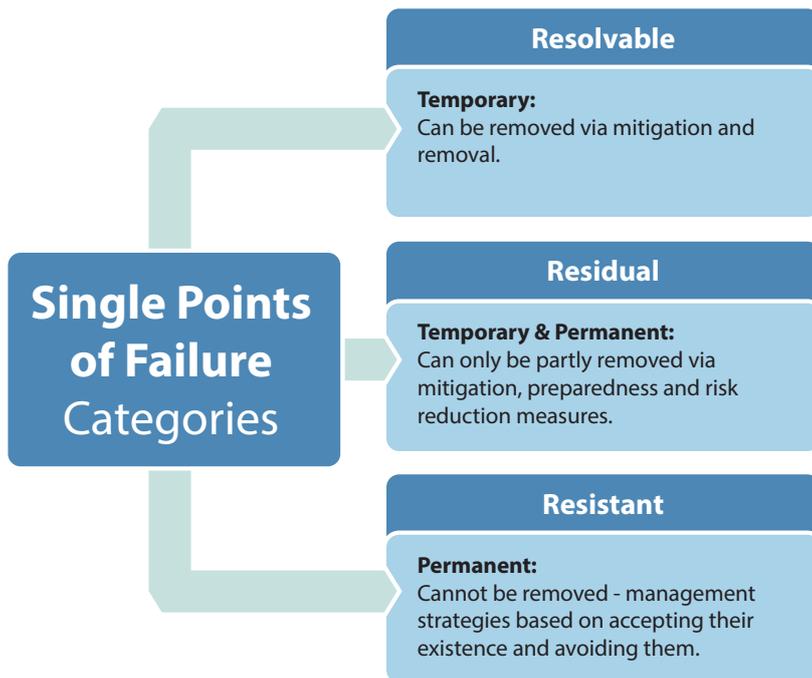


Figure 2.4: Categories of SPOF

As part of Lens 2, participants were asked to comment upon SPOF utilising two differing typologies. The first focuses on the size of the SPOF by determining the degrees of perceived severity and scalability of any SPOF (Determinants of SPOF). The second focuses on its ability to be addressed or 'fixed' using appropriate control measures (Categories of SPOF).

Perceptions of the severity and scalability of a particular SPOF by respective disaster managers and stakeholders will also influence to what extent they regard and estimate the extent to which a SPOF can be resolved (partly or completely) by the proper implementation of existing control measures or by the introduction of new control measures and solutions.

Put simply, this indicates whether a SPOF can be fixed, partly fixed or will remain unfixed by the actions of disaster managers and respective stakeholders working together to enhance Sierra Leone's DM system. Thus SPOF are categorised as follows:

- **Resolvable (Fixable):** SPOF that are categorised as 'Resolvable' can be regarded as temporary in nature since if appropriate resources and control measures are implemented or put in place then either or both the severity and scalability of a SPOF can be removed and thus the SPOF is resolved. Under this reasoning, the key strategies for addressing Resolvable SPOF are usually based on mitigation and removal.
- **Residual (Partly Fixable):** SPOF that are categorised as 'Residual' are more complex and multi-faceted. Residual SPOF can be reduced and/or removed only in part through the implementation of key strategies and control measures, leaving an enduring 'residual' element which governments and their disaster managers need to be constantly aware of and seek to mitigate.
- **Resistant (Unfixable):** SPOF that are categorised as 'Resistant' should be regarded as impervious to strategies and measures that seek their removal and are therefore regarded as permanent in their entirety and cannot be removed at all. Consequently, the management strategies to handle Resistant SPOF are often based around recognising and accepting their existence. These strategies are usually then based on acknowledging the Resistant SPOF as an extreme form of vulnerability, implementing limited risk reduction where it is feasible, and reconciling the boundaries where the SPOF will have a catastrophic impact in terms of the functioning of part or all of the respective DM system.

Methods

The AFRICAB Final Report employed a variety of mixed research methods to support and underpin the respective ‘Lens’ methodology (see Figure 2.5). This comprehensive and country-wide data collection process collectively incorporated detailed qualitative inputs and insights from 559 participants and stakeholders at the national, regional and local levels of DM. There was also participation from across the ‘triple-helix’ of the Government/ Public, Private, and Third Sectors, including Non-Governmental Organisations (NGOs). The AFRICAB research process was also able to incorporate the challenges of the coronavirus disease (COVID-19) lockdowns and provide further insight into the impact of handling disasters and emergencies in a COVID-19 environment.

Phase 1

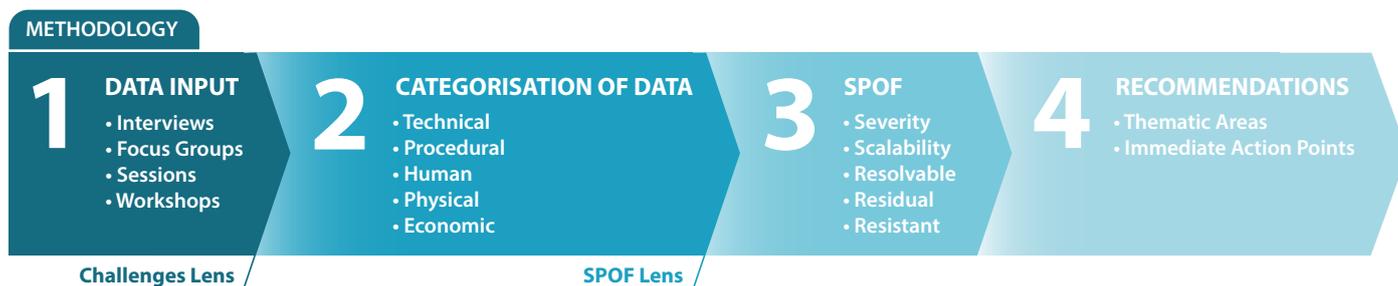
Literature Review: The completion of an extensive literature review/document survey of over 75 existing primary and secondary materials and resources to support the application of the MC analysis. Initial consultative workshops with national stakeholders were also held in September 2018 in order to provide early insights into the main challenges and to ensure stakeholder involvement and co-creation in the AFRICAB research design.

Stakeholder and Partner Benchmarking and Co-creation:

Initial stakeholder meetings took place in September 2018. These were organized under the auspices of the Disaster Management Department (DMD) in the Office of National Security (ONS) with representation from over 30 stakeholders including Government Ministries of Health and of Social Affairs, local authorities (for example, FCC), public agencies (such as the Environmental Protection Agency (EPA)), utilities and services, such as airport and port authorities, as well as responders such as the National Fire Force (NFF), the Sierra Leone Police (SLP) and the Republic of Sierra Leone Armed Forces (RSLAF). These meetings were designed to ensure stakeholder benchmarking and inputs into the design and execution of the initial AFRICAB research and field work.

Field Research: A country-wide qualitative research investigation process took place across Sierra Leone during March 2019. This involved a total of 104 national and local disaster managers and stakeholders in four major centres of population (Freetown, Bo, Kenema and Makeni) taking part in semi-structured, detailed one-hour interviews (12) and three three-hour dedicated focus groups (88). This was followed by a small set of one-to-one interviews in Freetown in January 2020 (4). The completion of interviews and focus groups provided a field research baseline data set to investigate the identification, categorisation and prevalence of SPOF and to provide key data in relation to the SPOF analysis.

Figure 2.5: Methodology and Methods



“AFRICAB research benefitted from extensive access to national and local agencies”

Phase 2

Peer-Review Workshops: The initial field research investigation was consolidated through the organisation of eleven additional benchmarking events over the period 2019-2021 involving a total of 455 participants. These were a series of peer-review and feedback events and workshops designed and organised to further inform research findings, accommodate practitioner perspectives towards the data and verify the SPOF diagnostic analysis. They included four peer-review sessions with 80 further national stakeholders in March 2019, May 2019, September 2019 and January 2020 as well as seven additional online workshops in Freetown with the participation of 375 additional councillors, local disaster managers and volunteers in August 2020, March 2021 and June 2021 to identify critical risks, locate obstacles and consider control measures in the pursuit of a robust, effective, ‘Fit-for-Threat’ DM system for Sierra Leone. The latter phase also enabled the AFRICAB research to capture in the data any strategic and operational challenges of the COVID-19 pandemic and the March 2021 Susan’s Bay fire disaster in Freetown on the functioning of the DM system of the country.

National Stakeholder Observations: AFRICAB research also benefitted from extensive access to national and local agencies and partners responsible for DM in Sierra Leone. In particular, the kind cooperation of the (then) DMD within the ONS and now the newly established NDMA of the Government of Sierra Leone facilitated access for AFRICAB researchers to key DM-related documents and planning meetings on the ground from 2018 onwards. The DMD was responsible for co-organising the field research interviews and focus groups in March 2019 and the follow-up peer-review sessions at the ONS in Freetown during the 2019 rainy season. AFRICAB attendance was also granted at the

‘platinum level’ meetings of the National Platform of Disaster Risk Reduction (NPDRR) of the Government of Sierra Leone during 2019 and 2020. The AFRICAB Director, Professor Lee Miles, also benefitted from insider insights in the development of the 2020 legislation that resulted in the new February 2020 law establishing the NDMA, which was subsequently launched in November 2020. He was also given full access to the NDMA response group and pillar coordination covering the Susan’s Bay fire disaster and the follow-up After Action Review (AAR) process (see Thornhill and Rogers, 2021). Access extended not just to DRR and response modes but also to recovery planning, with Professor Miles participating in the Government’s Technical Working Group (TWG) for the Recovery of Susan’s Bay in May 2021.

Local Stakeholder Observations: FCC also proved to be a valuable and productive partner of the AFRICAB project. Professor Lee Miles was allowed full access to the proceedings of the FCC’s District Disaster Management Committee (DDMC). AFRICAB researchers observed contemporary deliberations relating to DM arrangements, processes and procedures in Freetown during the period 2019-2021. In February 2021, Professor Miles joined the FCC’s ‘virtual’ Emergency Response Group (bringing together NDMA, FCC, NGOs and stakeholders) that handled 14 major fire incidents in Freetown during the period February to May 2021 in an ongoing evaluation role (see Miles, 2021). The data collection and analysis of this report therefore also reflects the most contemporary and detailed insights into levels of situational awareness relating to Freetown’s fire-related emergency response operations that took place during the COVID-19 pandemic.



Chapter 3

Results & Findings

“The findings confirm the existence of identifiable SPOF at the national level.”

Chapter 3 presents selected results and findings from the AFRICAB project. As described in the previous chapter, this involved a process of qualitative field research in terms of semi-structured interviews with 16 senior ONS personnel and national and local stakeholders in Freetown and focus groups organised by the local DDMC with local stakeholders and disaster managers in Bo (40), Kenema (26) and Makeni (22).

This therefore represents a country-wide sample covering the western, southern, eastern and northern regions of Sierra Leone, including inputs from multiple stakeholders and representation from 104 interested parties.

The findings presented here are based on key inclusion criteria guiding the data selection. SPOF included in this chapter were:

- Commonly identified in at least one-third (33 per cent) of the one-to-one semi structured interviews and interview transcripts.
- Commonly identified and discussed in at least two-thirds (66 per cent) of the focus groups as a minimum and frequently featured in all three focus groups.
- Were further verified in the peer-review and feedback AFRICAB workshops or in the participatory observations at key DM meetings attended by Professor Miles over the period 2019-21.

Overall National Findings

The findings from the 16 interviews confirm the clear existence of numerous identifiable SPOF at the national level. Overall, 47 different SPOF were identified by the interviewees suggesting that there is an extensive number of perceived potential SPOF within the current DM system in Sierra Leone. These findings reveal that the current, if improving, disaster DM system in the country is far from robust or resilient to potential breakdown or failures.

Indeed, 20 of the 47 SPOF (43%) were identified in over one third of the national interviewees.

There was also a high-level consensus that 15 of the 20 most commonly identified SPOF (75%) were both severe and scalable in terms of their consequences, suggesting a widespread concern across national officials and stakeholders.

There was also a large consensus that the clear majority of SPOF (33 out of 47) are resolvable.



“There is still significant work to be done to address these SPOF.”

Overall Local & Regional Findings

The findings from the dedicated focus groups organised under the auspices of the respective DDMCs of the cities of Bo, Kenema and Makeni in March 2019 confirmed the clear existence of numerous identifiable SPOF at the local level. These focus groups consisted of DDMC members with a strong diversity of local actors and organisations including ONS District Officers, local officers of the EPA, departments of local authorities, senior officers of the NFF, Police and armed forces, NGO stakeholders, local Community Disaster Management Committee (CDMC) members and volunteers.

The SPOF identified in these focus groups have been further validated in practitioners’ feedback sessions involving participants from these respective provinces that were subsequently held in Freetown, alongside representatives of FCC as well as in discussion sessions of the DDMC of FCC in 2020 and 2021. In its entirety, this has ensured a country-wide sample of local actors involving the provinces, multiple stakeholders and wide representation from over 100 interested parties.

Overall, 29 different SPOF were identified in the district focus groups and associated meetings as part of the data collection. 20 SPOF (62%) were detected in two or more of the focus groups and were further validated in discussions in at least one of the subsequent practitioners’ feedback sessions and/or DDMC workshops in Freetown.

Three notable observations can be drawn from this data collection:

- There is a high degree of commonality of identified SPOF across the provinces.
- There is a notable degree of commonality of identified SPOF between the district and national levels.
- That the SPOF methodology was confirmed as a useful value-added tool and an insightful policy concept at the local level.

Notable SPOF

The data reveals numerous notable SPOF that can be grouped into a number of cross-cutting themes. It should be noted that while there have been improvements in the competence and capacity of Sierra Leone’s DM system over the period 2019-21, there remain numerous discernible SPOF in all of these cross-cutting areas. Thus the challenges remain substantial in all areas. The propensity for negative impacts within an area, in terms of severity, and for those impacts to have knock-on, scalable effects to other areas of the DM system and activities remains high. In short, there is still significant work to be done to address these SPOF. These cross-cutting thematic areas are outlined in Table 3.1 as follows:

Table 3.1: Thematic SPOF

SPOF	Identified as Severe	Identified as Scalable
1. Data Management	75%	75%
2. Strategic Communication & Media Management	75%	69%
3. Disaster Risk Reduction (DRR) & Early Warning Systems (EWS)	69%	63%
4. Critical Infrastructure	38%	38%
5. Responder	75%	75%
6. Logistics	38%	38%
7. National/District Relations	88%	75%
8. Human Resources (& HR Expertise)	94%	94%
9. Procedural Issues	88%	88%
10. Lessons Learned	50%	50%
11. Coordination Challenges	69%	69%
12. Communication & Technology Challenges	75%	75%

Note: Percentage in second and third columns represents the proportion of the national interviews (N=16) only that identified the respective SPOF as having severe (within one area) and/or scalable (across areas of disaster management) consequences and impacts. Indicative numbering of SPOF does not infer ranking.



“Data management challenges are well recognised by the government.”

1. Data Management SPOF

Data Management constitutes a thematic area with discernible and high propensities for SPOF (see Table 3.2). This is important since data management and coordination remains a primary responsibility of the national disaster management unit of the central government (formerly the DMD in the ONS up until late 2020 and now the recently established NDMA).

In many ways, data management is an area where SPOF are commonly found since it reflects the harsh realities that successful data collection and management is a highly complicated task that requires substantial commitments in terms of human, technological and financial resources and often leads to tensions with other stakeholders, local communities and even the general public.

The research findings reveal that data management challenges are well recognised by the government and stakeholders (see World Bank, 2019). There have been major advances regarding the introduction of hard technological solutions like the use of mobile technologies (e.g. tablets and smart phones) to improve the ability to input data at the scene/site. The research findings also suggest that there is growing use of dedicated software solutions to facilitate data input, collection and analysis to improve, for example, the ability to produce more accurate rapid response assessments. Nevertheless, there remain notable SPOF particularly in relation to the data management of Affected Persons.



SPOF Thematic Area	SPOF Challenges	Details (National)	% of Interviewees	Details (Local)
Data Management	Data Collection of Affected Persons	<ol style="list-style-type: none"> 1. Human Resource challenges regarding numbers of staff trained and available to complete registration of affected persons. 2. Actual collection of data for list of affected persons leading to inaccuracies or incomplete registration of affected persons. 3. Lack of clarity around procedures for revising data on affected persons after initial collection and data analysis. 4. Challenges in filtering out ineligible affected persons during data collection at scene leads to 'swelling of numbers' and inaccuracies in data. 	75%	<ol style="list-style-type: none"> 1. Disparities in awareness and training on new software platforms being used by NDMA among local actors, CDMCs and volunteers. 2. Local actors and NGOs are often concerned about inaccuracies, detail and specific data provided by NDMA assessment reports and registration lists of affected persons. 3. Delays in production of NDMA assessment reports and list of affected persons lead to slow relief distribution by NGOs to local areas. 4. Significant concerns about a lack of clarity regarding responsibility and procedures for forwarding and handling local requests on revision of data for affected persons after initial collection and data analysis. 5. Lack of capacity of CDMCs, volunteers and responders produces constant challenges in filtering out ineligible affected persons during data collection at scene which often led to 'swelling of numbers' and data inaccuracies.
Data Management	Limited Digitalisation and Transmission of Data Collection & Capture	<ol style="list-style-type: none"> 1. Improving digitalisation of data capture but there are often delays in getting specific profiles to stakeholders to facilitate follow-up action on relief and recovery. 	44%	<ol style="list-style-type: none"> 1. Improving digitalisation of data capture but there are often delays in getting specific profiles to stakeholders to facilitate follow-up action on relief and recovery.

Table 3.2: Data Management SPOF at the National and Local Levels.

Sources: Data Collection Methods: National (Interviews, Practitioner Sessions and Workshops) and Local (Focus Groups and Workshops)

SPOF Thematic Area	SPOF Challenges	Details (National)	% of Interviewees	Details (Local)
Data Management	Limited Digital Situational Assessment	<ol style="list-style-type: none"> 1. Improving usage of site mapping and data collection constrained by weak network and variations in IT support and systems. 2. Lack of self-reporting and real time situational awareness systems to inform and contribute to ongoing situational awareness. 	44%	<ol style="list-style-type: none"> 1. Improving usage of site mapping and data collection constrained by weak network and variations in IT support and systems at local and district levels. 2. Lack of self-reporting and real time situational awareness systems to inform and contribute to ongoing situational awareness. 3. Good, but varied use of WhatsApp emergency groups by local NGOs, stakeholders and partners. 4. Lack of directories of councillors and CDMC chairs to be accessed at time of disaster response slows coordination and communication. 5. Lack of very high frequency (VHF) radios, directories and over-reliance on mobile phones among volunteers.

Table 3.2: Data Management SPOF at the National and Local Levels (continued)

Data Management SPOF at the National Level.

75% of interview respondents, all focus groups and the vast majority (78%) of feedback and observed stakeholder meetings indicated that by far the most impactful SPOF existed in relation to three main issues relating to data management of the registration and listing of affected persons:

- *Human Resource (HR) Limitations* in the number of national officials (especially among NDMA staff) trained in data collection for Registration of Affected Persons lead to delays in completion of registration processes and to challenges when this limited number of trained national officials are required to handle simultaneous emergencies and disaster events. This can lead to delays of several

days in the production of the required Registered List of Affected Persons (see Table 3.2);

- *Procedural and Technical Limitations* concerning the lack of clarity about access to, procedures on, and timeliness of, categorising data into respective sub-groups required by wider stakeholders to aid the organisation of relief efforts. This often leads to later delays in the organisation and delivery of relief items such as food, water, clothing and school items. Stakeholders are often required to repeat requests to gain access or to secure essential data not always initially or readily released in the first instance;



- *Procedural and Physical Challenges* with the onsite collection of data used for the registration and development of the Official List of Affected Persons. There is constant pressure when dealing with on-site demands from victims, representatives of CDMCs and councillors seeking to expand the registration list. In particular, further attention needs to be placed on addressing the weaknesses in multi-agency cooperation and activities (e.g. cordoning) to deal with the challenge of filtering out ineligible persons at data collection points at the scene in order to reduce inaccuracies in the affected persons data collection. and to avoid 'swelling of numbers'. It is often the case that persons from outside the actual scene of the disaster are attracted to the area in the

hope of securing any potential economic and financial advantages that accrue with gaining registration on the official list of affected persons.

It is important to note that even with the improvements from wider training in the use of ODKs by the NDMA in 2021, the overall national picture is one of a still relatively immature and limited level of digitalisation. Data collection and capture as well as levels of analysis and dissemination, whilst dramatically improving, can also be regarded as a wider SPOF.

The limited digitalisation of information especially affects inter-ministerial and inter-agency cooperation during disaster response since the sharing of information and situational awareness across interoperable platforms is often constrained. It also impacts upon DRR efforts.

Some 44% of interviewed respondents also comment that a particular SPOF exists in that the absence of common agreements on the specific profiles for data capture often led to delays in accessing important and specific data profiles. This SPOF affected not just the facilitation of follow-up action on relief and response, but also affected and led to delays and miscommunications on transitions to recovery planning.

It was, for example, not always clear whether the government and stakeholders were transitioning in tandem from response to recovery modes. This indicates a lack of coordination, with some continuation (and duplication) of response efforts when other stakeholders were moving to recovery operations. In other words, the lack of access to common data profiles led to some agencies going it alone and being 'out of step' with government direction and coordination.

“There were severe limitations in levels of self-reporting and situational awareness.”

3

In addition, the data findings highlighted that the impacts of this potential and real SPOF are also compounded by wider issues relating to weak and substantial variations in network and IT connectivity among national ministries, agencies and stakeholders. This includes variations in network and IT capacities even within a single government unit that constrains internal coordination and key data sharing. It also extends to variations across ministries.

Although there has been substantial investment in data systems and surveillance in the public health sphere, especially since the EVD outbreak of 2014-16 that resulted in the creation of the National Ebola Response Centre (NERC) and then the successor National COVID-19 Emergency Response Centre (NaCOVERC) and District COVID-19 Emergency Centre (DiCOVERC) arrangements to handle the response to COVID-19 since 2020, the same level of investment has not been available to other ministries or even the DMD in the ONS, which was responsible for coordinating other types of emergencies. This has weakened both data management and information sharing possibilities and led to some interoperability questions both across government and between government and other stakeholders. Around 44% of interviews highlighted that this has important implications in terms of potential SPOF including:

- *Technical Limitations in Inter-Pillar Coordination.* While there had been significant improvements in the availability of site mapping and Geographical Information Systems (GIS) solutions so that the mapping of impact sites at times of disasters is available to stakeholders and pillars, the weaknesses in connectivity and interoperability of IT systems meant that information sharing could be delayed when it comes to sharing the results. This had, for example, been noted by some stakeholders as a challenge in enabling

more effective inter-pillar and stakeholder cooperation at the time of the Susan’s Bay Fire in March 2021.

- *Physical and Resource Limitations in Situational Awareness.* There were severe limitations in levels of self-reporting and in real time situational awareness with stakeholders and agents unable to effectively inform each other of their ongoing activities and contribute to up to date situational awareness. Despite the development of a robust pillar framework for disaster response by the NDMA that was implemented during the Susan’s Bay incident to good effect, the tendency was still to hold physical meetings and resist or not develop online platform participation as normal best practice because of the weakness in effective and interoperable IT systems and support. This continues to allow for SPOF in terms of a lack of self-reporting, real time information and data sharing that inhibits the ability of national agencies to further coordinate activities to a very detailed level.

Data Management SPOF at the Local Level.

Those specific SPOF at the national level clearly have implications and impacts on effective DM at the provincial, district and even ward levels. Many of these were confirmed in the respective research findings. In addition, several specific local-level SPOF were also highlighted including:

- *Ineffective data collection.* While local actors, CDMC and volunteers are often involved in the collection of data in support of the NDMA to complete registration of affected persons, there remain concerns about their effectiveness. Local actors suffered from significant variations in their awareness and capacity to input data into new applications being used by the NDMA.



- *Poor quality data.* Local actors and NGOs were often not satisfied with the level of detail and specific data provided by NDMA assessment reports and registration lists of affected persons highlighting inaccuracies or incomplete registration of affected persons.
- *Delays in the production of NDMA assessment reports* and lists of affected persons lead to slow relief distribution by NGOs to local areas and scenes.
- *Data Procedures.* There were significant concerns about SPOF in relation to the lack of clarity about responsibility and procedures for forwarding and handling local requests towards revising data on affected persons after initial collection and data analysis.
- *Lack of capacity of local CDMCs, volunteers and responders* often produced constant challenges in filtering out ineligible affected persons during data collection points at the scene which often led to 'swelling of numbers' and inaccuracies in data.
- *Weak levels of digitalisation* especially among local authorities and CDMCs mean they are highly reliant on expensive mobile phone access to GIS, hazard and site mapping and data analysis which restricts dissemination at local level.
- *Lack of inexpensive and cheap self-reporting systems* to inform and contribute to ongoing situational awareness among local actors.
- *Few easily accessible directories* of councillors and CDMC chairs to be accessed at time of disaster response slows coordination and communication.
- *Lack of VHF radios, directories and over-reliance on mobile phones* among volunteers.

2. Strategic Communication and Media Management SPOF

There are significant SPOF identified in the data findings in relation to strategic communication and media management. It should be noted that notable progress has been made in terms of developing a coherent pillar structure to handle respective disasters including COVID-19 by the DMD and now NDMA. Progressive work continues to be done. That pillar structure, for example, envisaged and led to the creation of dedicated Risk Communication (RC), Social Mobilisation

(SM) and Public Information (PI) pillars or combinations of these pillars to meet the requirements of the disaster response once set in motion. In each instance, prominent stakeholders with substantial expertise are recruited as joint leads with governmental figures and agencies to enhance levels of knowledge and co-ordination efforts. In addition, the development of the NERC and the creation of the NaCOVERC and DiCOVERC arrangements for handling COVID-19 have acted as useful testbeds for the development of improved strategic communication and media management in Sierra Leone.

Table 3.3: Media Management & Strategic Communication SPOF at the National & Local Levels. Sources: Data Collection Methods: National (Interviews, Practitioner Sessions and Workshops) and Local (Focus Groups and Workshops)

SPOF Thematic Area	SPOF Challenges	Details (National)	% of Interviewees	Details (Local)
Strategic Communication	Absence of Strategic Communication	<ol style="list-style-type: none"> 1. Weak DDR focus within strategic communication. 2. Lack of pre-prepared key messaging and clarifications on common strategic communications messaging prior to onset of crisis. 	69% 75%	<ol style="list-style-type: none"> 1. Significant delays in transfer and transmission of strategic communications from national to local levels. 2. Lack of local pre-prepared key messaging and clarifications on common strategic communications messaging prior to onset of crisis.
Media Management	Marketing Clear Messaging	<ol style="list-style-type: none"> 1. Limited attention to developing pre-prepared messaging among stakeholders. 	69%	<ol style="list-style-type: none"> 1. Little priority towards developing pre-prepared messaging among stakeholders at the district level.
Media Management	Training & Media Knowledge	<ol style="list-style-type: none"> 1. Limited numbers of key government officials involved in or receiving media training or exercising. 2. Varied and often very limited engagement of disaster managers with differing forms of media including social media. 	44%	<ol style="list-style-type: none"> 1. Limited numbers of local community officials, councillors, CDMCs and volunteers involved in or receiving media training or exercising. 2. Varied and often very limited engagement of disaster managers with differing forms of media including social media.

“Too little attention was paid to prior messaging that could educate communities.”

Strategic Communication and Media Management SPOF at the National Level.

Nevertheless, the data suggests that there are still challenges that represent inherent SPOF which national agencies and stakeholders need to address (see Table 3.3). There is some way to go before they will be effectively removed. These relate to:

- *Procedural Limitations: Weak Development of Coherent, Coordinated and Clear Messaging.* Despite the creation of dedicated pillars at the time of emergencies, some 69% of respondents indicated that there is a notable SPOF relating to often a lack of, or at best a limited number of, pre-prepared messages that can be issued quickly at the time of any response. On many occasions, the pillars do not benefit from any kind of institutional memory or prior archive of suitable Sierra Leone-orientated messages that can be easily understood by the communities. There is also often an immediate challenge in providing speedy, accurate and preferably multi-lingual messaging that has been prepared and approved in Krio and other indigenous languages that can have timely utilisation in the various regions of Sierra Leone where English is not the first language.
- *Human Resource Limitations: The Level of Media Knowledge and Trained Expertise in Media Management Available.* Despite the pillar structures, there are severe limitations in the number of key government and agency officials that possess extensive media and/or crisis communication skills. Few have received recent and/or regular media training and exercising to make sure their skills in delivering effective crisis communication messaging are current and well refined. Some 44% of respondents and all the focus groups across the country highlighted the lack of dedicated and frequent media training and/or

exercising that lead to the potential for SPOFs in terms of media delivery, media messaging and miscommunication among key stakeholders and between key stakeholders and the public.

- *Human Resource Limitations: Varied and very limited professionalized engagement with differing forms of media and social media platforms.* At 44% this was a notable cited SPOF that highlighted a lack of familiarity with key media platforms used by stakeholders to liaise quickly. This even included, in some cases, WhatsApp, which is a widely utilized platform among DM policymakers and stakeholders in Africa. This lack of familiarity inhibited timely communication and coordination. It also highlighted an inherent caution and even resistance for key officials and stakeholders to understand, let alone engage with, social media platforms which are commonly frequented by the public and even key stakeholders as an essential form of crisis communication and information.

These major challenges – that each represent notable potential SPOF – also intersect with observations in terms of issues with general strategic communication. A significant 75% of the interviews highlighted that these cumulative issues with media management led to a major SPOF in terms of strategic communication. More specifically,

- 69% of interviewees highlighted that too little attention was paid (if any) to prior messaging that could educate communities on DRR prior to disasters. A firm base of DRR strategic communication was not in place, although greater attention has been given more recently to addressing this problem.
- 75% of interviewees further confirmed that the main SPOF in terms of strategic communication related to the lack of prior prepared and approved messaging

and clarifications on common strategic communications messaging prior to the onset of a crisis. This leads to notable delays in the presentation of key background information and communicating key actions at the time of response while senior approvals for crisis messages were sought and contextualised.

Strategic Communication and Media

Management SPOF at the Local Level. Those specific SPOF at the national level clearly have implications and impacts on effective DM at the provincial, district and even ward levels. Many of these were also confirmed in the respective research findings. In addition, several specific local-level SPOF were also highlighted including:

- *Lack of pre-prepared messaging.* Despite the successful use of WhatsApp groups as an easily accessible and inexpensive form of enhancing communication, local actors, including local authorities have often not engaged in developing pre-prepared messaging prior to the onset of emergencies to take account of local languages and situations and also in

relation to those hazards with the most relevance to their specific provinces, districts and communities.

- *Media knowledge and training.* Local community officials, councillors, CDMCs and volunteers often have not been involved in or have received dedicated media training or exercising in relation to disasters and emergencies.
- *Media engagement.* There are major variations and often limited engagement of disaster managers with differing forms of media including social media platforms and very little common guidance or codes of conduct on approaches to such usage.
- *Strategic Communications.* The significant delays in the timely transmission of strategic communications messaging from national to local levels often led to unapproved actions on the part of local actors or to delays in guidance and strategic communication being issued by local actors, thereby inhibiting the coordination and effective delivery of response activities.



3. Disaster Risk Reduction (DRR) & Early Warning Systems (EWS)

Table 3.4: DRR & EWS SPOF at the National and Local Levels

Sources: Data Collection Methods: National (Interviews, Practitioner Sessions and Workshops) and Local (Focus Groups and Workshops)

SPOF Thematic Area	SPOF Challenges	Details (National)	% of Interviewees	Details (Local)
Disaster Risk Reduction	DRR	<ol style="list-style-type: none"> 1. Limited DRR impetus leads to poorly attended meetings on DRR issues by stakeholders. 2. Unfocused DRR messaging particularly in educating communities prior to disasters. 	69%	<ol style="list-style-type: none"> 1. Lack of updated hazard maps and up to date risk registers for most districts and wards. 2. Little DRR messaging received by local communities prior to disasters.
Early Warning	EWS	<ol style="list-style-type: none"> 1. Limited ability for EWS staff to quickly disseminate interpretations of data to key policy-makers. 2. Poor EWS-related communication to regions. 3. Lack of understanding among policy-makers of EWS terminology and interpretations. 4. Weak “battle-rhythm” and timings of important meetings lead to propensity for strategic miscommunication or lack of transmission of key messages to partners and stakeholders. 5. Lack of EWS investment, particularly maintenance budgets to service equipment and systems. This leads to breakdown and gaps in capacity. 	69%	<ol style="list-style-type: none"> 1. EWS messaging from ministries to districts is inconsistent and often delayed. Relies mostly on local individuals checking websites on their own. 2. Locals do not understand or are unable to interpret early warning data received from key policy-makers. 3. Poor EWS related communication to regions. 4. Lack of understanding among local policy-makers, councillors, CDMCs and volunteers of EWS terminology and interpretations. 5. Weak “battle-rhythm” and timings of important meetings. Limited synchronisation between national and local levels leads to propensity for strategic miscommunication or lack of transmission of key messages to partners and stakeholders. 6. No local financing for EWS.

DRR and EWS SPOF at the National Level.

The document survey and interviews strongly highlighted the value of having effective and functioning EWS in Sierra Leone. The experience of ever more frequent floods as part of the annual rainy season and the impact of the 2017 landslide disaster were regularly cited as rationales for a stronger emphasis on functioning EWS capacities. Notable SPOF were also extensively recognised among participants in this study (see Table 3.4), namely 69% of the interviews highlighted:

- *Lack of impetus limits DRR awareness.* Until recently, the few totally dedicated meetings focusing entirely on DRR were often poorly attended by other ministries, departments and agencies restricting the ability to integrate and enhance DRR planning.
- *EWS Human Resource Limitations.* Limitations in expert staffing means that while investment in EWS was improving, there were still major challenges in terms of available human resources in Sierra Leone to interpret climatic and hydrological data being detected by EWS systems. The number of trained meteorologists and hydrologists in the country and available to the DM system is still rather small.
- *EWS Human Resource Limitations in Wider Training.* Alongside the issues with crisis communication, there had been very limited investment in improving the ability of EWS operatives to be able to quickly disseminate climatic and hydrological findings and interpretations picked up by EWS apparatus operating in Sierra Leone.
- *EWS Human Resource Limitations at National and District Levels.* More widely, at both national and district levels there was a lack of or very limited understanding among policymakers regarding key EWS terminology and data which inhibited their



ability to conduct planning or preparations as well as to engage effectively with local communities.

- *EWS Procedural Limitations.* There was poor communication of EWS interpretations and communications to other stakeholders in a timely fashion and this was particularly the case in terms of poor and intermittent EWS-related communication to the provinces and districts outside Freetown. Information was often delayed and lacking in detail reducing the ability of regions and districts to prepare for the imminent arrival of bad weather and challenging climatic and meteorological conditions.



maintain complicated EWS equipment and systems (sensors, weather stations, weather balloons, IT software updates etc) that led to frequent breakdowns and gaps in capacity to undertake regular EWS functions.

DRR and EWS SPOF at the Local Level. Those specific SPOF at the national level clearly have implications and impacts on effective DM at the provincial, district and even ward levels. Many of these were also confirmed in the respective research findings. In addition, several specific local-level SPOF (see Table 3.4) were also highlighted including:

DRR:

- There is a notable lack of updated and widely accessible hazard maps and up to date risk registers for most districts and wards that take account of indigenous knowledge and viewpoints.
- Weak DRR messaging from local authorities particularly in educating communities prior to disasters.
- Considerable variations in cooperation of local chiefs and community leaders in DRR activities.

EWS:

- Messaging from ministries to districts is inconsistent and often delayed. EWS in practice relies mostly on local individuals checking websites on their own.
- Locals are not able to access, understand or easily interpret any early warning data analysis and interpretations from national policy-makers and ministries. This leads to missed opportunities to inform local disaster preparedness and response.

- *EWS Procedural Limitations.* The scarcity and lack of detailed and easily accessible EWS information often contributed to weak “battle-rhythms” and timings of important meetings so that key EWS information did not feature or was not considered as part of strategic decision-making and information sharing. This SPOF often led to propensities for strategic miscommunication or lack of transmission of related actions and decisions to key partners and stakeholders.
- *EWS Financial Limitations.* A major SPOF related to the lack of regular or insufficient size of maintenance budget to service and



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4. Critical Infrastructure SPOF

The field research also revealed common identification of a number of ongoing SPOF relating to critical infrastructure. While it is fair to say that given the country’s status as a less developed country (LDC), it is highly likely that this will often mean many parts of

the country’s infrastructure are deficient or even lacking (e.g. comprehensive sanitation and clean water systems, waste disposal and sewage systems, power supply etc.), the interviewees and focus groups commonly identified a smaller number of critical infrastructural issues that define ongoing SPOF in terms of DM (see Table 3.5).

Table 3.5: Critical Infrastructure SPOF at the National and Local Levels

Sources: Data Collection Methods: National (Interviews, Practitioner Sessions and Workshops) and Local (Focus Groups and Workshops)

SPOF Thematic Area	SPOF Challenges	Details (National)	% of Interviewees	Details (Local)
Critical Infrastructure	Quality of Road Network	<ol style="list-style-type: none"> 1. While road networks have received more investment, there is a lack of coherent urban and strategic planning of road network. 2. Poor maintenance of road network and implementation of by-laws to protect and maintain them. Road network is often poorly maintained. 3. Weakness of supportive road structures like provision of fire hydrants and storm drainage to ensure 24/7 accessibility of road network for responders. 	38%	<ol style="list-style-type: none"> 1. Weak urban planning and little rural investment on roads or road maintenance means remote and rural communities are poorly accessed or reachable in a timely manner. 2. Roads become impassable during rainy season due to lack of resilience. 3. Poor maintenance of road network and implementation of by-laws to protect and maintain them. Road network often poorly maintained. 4. Weakness of supportive road structures especially in informal settlements means that first responders are reliant on local volunteers and CDMCs (where active).

Critical Infrastructure SPOF at the National

Level. Just over one third (38%) of the national interviews especially highlighted the SPOF for the DM system stemming from the inadequacies in the provision and maintenance of Sierra Leone's national road network (see Table 3.5). While the policies and investments of successive governments have led to notable improvements in the country's road networks, specific issues identified in the field research that are perceived to lead to strong likelihoods of SPOF for both the urban and rural areas include:

- *Weak strategic planning.* In terms of urban areas, weak implementation of coherent strategic planning of the road network means that many communities are not accessible by serviceable road networks that can be used by responders' and stakeholders' assets and vehicles. This can severely inhibit response for example to fire incidents in many of the major cities across Sierra Leone.
- *Weak implementation of strategic planning of the road network* restricts possibilities for cross-provincial support at times of common emergencies or to provide surge capacity (mainly from Freetown) in support of neighbouring provinces experiencing disasters.
- *Poor or non-existent maintenance* of the existing road network and weak and inconsistent enforcement of by-laws that undermine timely disaster response.
- *Deficiencies in supportive structures* that have relevance to emergency response (such as the limited number of fire hydrants in many parts of the urban areas) leads to limitations in the ability of responders to deal with incidents in a timely manner.
- *Inconsistent upkeep and lack of clearance of storm drains* leads to flooding and drainage that can make some roads impassable or hard to use during times of disaster response.
- *Poor road networks.* In the rural areas, the weaknesses in road networks and bridges leads to accessibility issues and poor crisis communication with remote communities at times of crisis and disasters.



“Local authorities and agencies provide little investment in rural roads.”

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Critical Infrastructure SPOF at the Local Level. SPOF at the national level clearly have implications and impacts on effective DM at the provincial, district and even ward levels. Many of these were also confirmed in the respective research findings. In addition, several specific local-level SPOF were also highlighted. A distinctive feature of this data is that there was also a strong focus on utilities, especially electricity issues, in the local level discussions, including:

Roads:

- The weak enforcement of urban planning rules, laws and by-laws at the local level leads to unapproved buildings and structures being erected that block local roads especially in informal settlements.
- Local authorities and agencies provide little investment in rural roads or road maintenance leading to many remote and rural communities not being reachable in a timely manner. Rural CDMC arrangements therefore assume paramount importance.
- Lack of DRR key activities, such as clearance of storm drains, means roads become impassable during the rainy season and so lack resilience.
- There remains some confusion at the local level over responsibility for local reporting on and enforcement of by-laws, contributing to poor maintenance of local roads.
- Weakness of supportive road structures especially in informal settlements means that first response is over-reliant on local volunteers and CDMCs (where they are active).

Electricity:

- There were major concerns expressed about the lack of maintenance of local electricity supplies that are often obsolete which contribute to the outbreak of fires during the dry season.



- There were notable concerns about the lack of engagement of power companies with responders, local councillors and CDMCs in order to promote fire prevention and fire safety practices among communities.

5. Responder SPOF

Table 3.6: Responder SPOF at the National and Local Levels

Sources: Data Collection Methods: National (Interviews, Practitioner Sessions and Workshops) and Local (Focus Groups and Workshops)

SPOF Thematic Area	SPOF Challenges	Details (National)	% of Interviewees	Details (Local)
Responder	Capacity of Responders	<ol style="list-style-type: none"> 1. Road network does not ensure or cater for usage by responders. 2. Notable deficiencies in numbers and availability of operational equipment for NFF and SLP. 3. Lack of maintenance budgets for responders leads to breakdown and lack of availability of key equipment. 4. Limited and in many cases, no access to urban communities and informal settlements restricts responder involvement in disaster response. 5. Poor urban planning implementation and enforcement leads to inaccessible communities for responders. 6. Poor waste management implementation leads to lack of/limited access to sites and contamination of water sources for NFF response. 	75%	<ol style="list-style-type: none"> 1. Road network does not ensure or cater for usage by responders. 2. Notable deficiencies in numbers and availability of operational equipment for NFF and SLP especially in provinces. 3. Notable variations of interpretations by responders as to their role and leadership functions in incident command. 4. Lack of maintenance budgets leads to breakdown and lack of availability of key equipment for responders especially in provinces. 5. Limited and in many cases, no access to urban communities, informal settlements and remote areas restricts responder involvement in disaster response. 6. Poor urban planning implementation and enforcement lead to inaccessible communities for responders. 7. Poor waste management implementation leads to lack of/limited access to sites and contamination of water sources for NFF response.

“Poor urban planning and enforcement lead to inaccessible communities”

Responder SPOF at the National Level. Not surprisingly given their vital importance to all phases of DM and especially disaster response, three-quarters of interviewees and all the focus groups and workshops identified SPOF in relation to key responders (NFF, SLP and RSLAF). It should be noted that in many cases, the commitment and professionalism of the responders in Sierra Leone was perceived positively. Nevertheless, the responders in Sierra Leone face many potential and real SPOF that affect all phases of DM (see Table 3.6) and include:

- *Weaknesses in the powers of responders to enforce laws and regulations that might enhance DRR and particularly response.* For example, missing or inadequate fire safety legislation bestowing strong powers on the NFF to guide and enforce fire prevention and to enhance fire safety in communities.
- *Notable deficiencies in numbers and availability of operational equipment for NFF and SLP.* For example, operational fire plant, fire-fighting equipment, limitations in hazardous materials (HAZMAT) equipment, and police and fire vehicles. It should be noted that elements of this are improving (e.g. international funding in 2021 of some fire-fighting equipment for the NFF). However, notable gaps in equipment and provision for both NFF and SLP remain.
- *Lack of maintenance budgets* for responders to maintain and update equipment leads to the breakdown and lack of availability of key equipment for responders.
- *Weaknesses in responder support structures,* such as fire hydrants in urban areas, water tanks and foam supplies at fire stations.
- *Poor urban planning implementation and enforcement* lead to inaccessible communities for responders. In many cases, no access to urban communities and informal settlements prevents responder involvement in disaster response.
- *Information-sharing.* Responders often lack up to date local maps and access to risk registers for communities that can inform and improve their access to future incidents.
- *Limited training opportunities* for police and fire fighters to enhance their emergency response skills restrict skillsets of available responders, especially in relation to mass casualty incidents, chemical, biological or hazardous incidents.

Responder SPOF at Local Level. Those specific SPOF at the national level clearly have implications and impacts on effective DM at the provincial, district and even ward levels. Many of these were also confirmed in the respective research findings. In addition, several specific local-level SPOF were also highlighted including:

- *Notable deficiencies in numbers and availability of operational equipment* for NFF and SLP especially in the provinces mean that response is often restricted to some urban areas. Response times to rural areas are excessive or simply not undertaken by responders.
- *Variations of interpretations by responders* within and between the provinces as to their specific roles, contributions and leadership functions in incident command.
- *Lack of local maintenance budgets* for responders leads to breakdown and lack of availability of key equipment for responders especially in provinces
- *Poor urban planning implementation and enforcement* lead to responders being unable to access some communities.
- *Weak local waste management* implementation leads to lack of/limited access to sites and to contamination of water sources for NFF response.

6. Logistics SPOF

Table 3.7: Logistics SPOF at the National and Local Levels

Sources: Data Collection Methods: National (Interviews, Practitioner Sessions and Workshops) and Local (Focus Groups and Workshops)

SPOF Thematic Area	SPOF Challenges	Details (National)	% of Interviewees	Details (Local)
Logistics	Logistics Store Management & Stockpiling	<ol style="list-style-type: none"> 1. Despite improved warehouses and logistics management, limited stockpiles of key equipment exists at national government level. 2. Challenges of maintaining up to date inventories of available equipment at national and local levels. 3. Over reliance on donor logistical capacities that may quickly become overstretched and which may lead to donor-fatigue. 4. Duplication of roles among donors. 5. Resistance of NGOs to coordinate for reputational purposes. 	38%	<ol style="list-style-type: none"> 1. Lack of available stores or stockpiles in provinces and at local level countrywide. Poor stockpiling in communities. 2. Limited warehouses and logistics management, often few stockpiles of key equipment at local government level. 3. Challenges of maintaining up to date inventories of available equipment at local levels. 4. Over-reliance on donor logistical capacities that may quickly become overstretched and which may lead to donor fatigue. 5. Duplication of roles among donors. 6. Resistance of NGOs to coordinate for reputational purposes.





Logistics SPOF at the National Level. In recent years, there has been a significant improvement in the logistical capacity at the national level for handling emergencies and disasters. Initiatives such as the inclusion of a seconded military officer with substantial logistics management experience in the (then) DMD and now NDMA has provided enhanced logistical planning and management. In addition, the actual capacity of Sierra Leone to stockpile key items as part of its mitigation strategy has been discernible, with new warehouse construction being completed often with funding and assistance from supporting international institutions and donors. Nevertheless, 38% per cent of the interviews, verified in all the feedback sessions, identified ongoing logistics as notable SPOF (see Table 3.7). Five key observations in relation to SPOF were detected in the field research, including:

- *Limited Stockpiles.* Despite improved warehouses and logistics management, there remain very limited stockpiles of key equipment at national government level. Stockpiles are also strongly centralised around the Freetown area.
- *Updated Inventories and Directories.* There remain ongoing challenges of maintaining up to date inventories of available equipment at national and local levels. This is compounded by a lack of shared inventories with NGOs to ensure

coordination of purchasing and prevent misappropriation of funding.

- *Over-reliance on donor logistical capacities* that may quickly become overstretched, prompting new and even ongoing ‘donor-fatigue’. Indeed, the heavy reliance on donor capacities tends to accentuate the focus on disaster response among national DM policies since there is a larger number of NGOs engaged in relief operations and activities. It also leads to stronger propensities for duplication of roles and outcomes among donors and NGOs so that some resources are not distributed evenly across affected communities and areas.
- *Duplication of roles among donors.* There is a strong tendency for donor NGOs to increasingly undertake their own risk assessments and follow their own prioritization, leading to an increased likelihood of duplication of efforts, a focus on relief items that donors, rather than the coordinator agencies, want to prioritise and tensions with the NDMA who seek to maintain oversight of the disaster response and relief processes.
- *Resistance of NGOs to coordinate for reputational purposes.* There is a notable trend that NGOs are often attracted to intervention in high profile disasters where media attention is large and NGO



“There are few if any major stockpiles.”

profiles’ can be extended and furthered. This led to numerous instances in 2021 including, for example, the oversupply of relief items to Susan’s Bay rather than a wider concentration on other incidents and affected areas in Freetown. It also led to notable differences in perception and NGOs ignoring statements by NDMA that the respective response phasing had finished and all actors were to transition to supporting recovery operations in May 2021.

Logistics SPOF at the Local Level. Those specific SPOF at the national level have implications for effective DM at the provincial, district and even ward levels. Many of these were also confirmed in the respective research findings. Several specific local-level SPOF were also highlighted including:

- *Warehouse and storage limitations.* There are notable SPOF in the availability of secure warehousing and storage units in many of the informal settlements of the country’s cities given levels of poverty. Hence, there are few if any major stockpiles, leading to immediate shortages of key supplies, equipment and tools when emergencies occur.
- *Limited provincial stockpiling capacities.* Most provinces lack sufficient logistical

stockpiles and logistic management structures to handle even Level 1 incidents. Lack of warehouses and stockpiles in many provinces leads to management and time pressures to supply from Freetown over long distances.

- *Lack of planning and situational awareness.* Due to the lack of local risk registers and local emergency plans available to CDMCs and volunteers, there is an accompanying lack of planning and situational awareness of how future requests for supplies and stockpiles will be addressed.
- *Logistics Management.* There are significant SPOF in terms of the challenges of maintaining up to date inventories of available equipment at local levels. Local requests to government are therefore slow and often incoherent, leading to delays with governmental distributions and actions.
- *Over-reliance on donor logistical capacities.* Even at Level 1 disasters, there is a complete overreliance on donor logistical capacities in terms of transport and supply vehicles that may quickly become overstretched. This accentuates ‘donor-fatigue’, duplication of NGOs roles and resistance among NGOs to coordinate for reputational purposes.

7. National - District Relations SPOF

Table 3.8: National – District Relations SPOF at the National and Local Levels

Sources: Data Collection Methods: National (Interviews, Practitioner Sessions and Workshops) and Local (Focus Groups and Workshops)

SPOF Thematic Area	SPOF Challenges	Details (National)	% of Interviewees	Details (Local)
National District Relations	Communication & Coordination	<ol style="list-style-type: none"> 1. Haphazard and slow transmission of instructions and key communications from central government with notable time lags in terms of implementation in districts. 2. Weak and ad hoc coordination with districts in terms of coordinating response with local councillors, CDMCs and volunteers leading to duplication of effort. 3. Focus entirely on response. Limited DRR awareness. 	75%	<ol style="list-style-type: none"> 1. Major concerns amongst local actors about misunderstanding of key communications from central government with notable time lags in terms of implementation in districts. 2. Districts often unclear as to level of local responsibility for areas of coordinating response, including among local councillors, CDMCs and volunteers leading to duplication of effort. 3. Local districts largely focused entirely on response. Limited DRR awareness means local actors only consider DRR activities at start of respective season.
National District Relations	Resourcing	<ol style="list-style-type: none"> 1. Reliance upon development of specific 'stand-alone' local requests and budgets that leads to delays in government decisions and funding. 2. Heavy reliance on donors to provide coordination and delivery at the local levels. 3. Few (if any) training or exercising budgets to allow for updating and testing of response plans. 	50%	<ol style="list-style-type: none"> 1. Districts often lack dedicated financial resources from local authorities to coordinate efforts at the local level. 2. Little guidance from government to local actors on how to write specific local requests and budgets can lead to poor applications and then delays in government decisions/funding. 3. Almost complete reliance on donors to provide coordination and delivery at the local levels. 4. Few (if any) training or exercising budgets to allow for updating and testing of response plans.

SPOF Thematic Area	SPOF Challenges	Details (National)	% of Interviewees	Details (Local)
National District Relations	Community Resilience	1. Capacity Issues: NDMA and national agencies often unclear as to number of active volunteers in operation. 2. Liaison Issues: Challenges with updated lists of CDMC leaderships and contact addresses of key persons in districts. 3. NDMA- district cooperation limited by weaknesses of DM delivery units in local authorities. NDMA often called to deliver Level 1 functions especially outside Freetown	88%	1. Resilience and lack of accurate lists of CDMC members and active volunteers. 2. Local actors concerned about reliability of local volunteers at times of crisis. 3. Supporting logistics often weak and not planned; are ad hoc at times of disaster response. 4. Limited training of volunteers. 5. Sometimes strained relations with traditional authorities/local rulers/chiefs.

Table 3.8: National - District Relations SPOF at the National and Local Levels (continued)

National – District Relations SPOF at the National Level. From the perspective of central government and national stakeholders, relations with the districts were identified as a notable area for SPOF (see Table 3.8). Indeed, this area was identified strongly among the interviewees with 75% identifying relations with the districts as a notable area for SPOF, as well as featuring strongly in all feedback seminars and workshops. An even more notable 88% highlighted issues relating to the robustness of active community resilience in terms of capacity and liaison issues (see Table 3.8). For the most part, perceived areas of SPOF in relation to the districts tended to focus on the following aspects:

- *Limited DRR awareness among provinces and districts.* Despite national efforts to promote a stronger focus on DRR in recent years, the local districts in all provinces

of Sierra Leone remained largely focused on response and showed limited DRR awareness. This may, of course, be partly because most districts rely heavily on volunteers at times of emergencies, which leads to limited opportunities to engage in DRR activities.

- *Crisis Communication delays and deficiencies between national and district levels.* Although there has been a stronger focus at the national level on enhancing crisis communication and interactions with the local districts, there remain many instances of haphazard and often slow transmission of data, instructions, key guidance and communications from central government and national stakeholders to the district level that tended to lead to or accentuate time lags in terms of



further implementation and action in the provinces and districts. It is the case that guidance for 72 hours (as a target deadline) for the delivery of effective disaster response to communities was often missed, sometimes by a wide margin of days or even weeks.

- Limited national documentation and guidance from the national level on the roles of local chiefs, policymakers, stakeholders and volunteers at times of disaster.* In general, there remains a propensity for weak and ad hoc coordination with districts leading to some confusion and even duplication of effort. This pertains particularly to disaster response where chaotic, sporadic and ad hoc coordination with districts often reinforces notable variations in the maturity and extent of coordination among local councillors, CDMCs and volunteers. The focus groups and workshops also confirmed a prevailing perception that the role of local chiefs and tribal leaders as influencers on community perceptions towards DM was often underestimated at the national level.
 - Community Resilience, Volunteer Capacity Issues.* NDMA and national agencies are often unclear as to the number of active volunteers in operation within respective local areas, which complicates assumptions for DRR and response planning. In particular, wider local authority and NDMA logistical support as well as discussions on future stockpiling requirements remain complicated by the uncertainties around active volunteer capacities.
 - CDMC Liaison Issues: Challenges with updated lists of CDMC leaderships and contact addresses of key persons in districts.* National agencies are often delayed by the need to pursue updates on contacts at times of response. These CDMC liaison issues also have local implications since the lack of updated lists of CDMC leaderships and active volunteers also meant that councillors and community leaders were not always clear as to who they could rely on or indeed contact at times of disaster response.
 - Weaknesses of Local Delivery Units.* NDMA/district cooperation is limited by weaknesses of existing, or indeed often the complete lack of, DM delivery units in local authorities. NDMA is often called to deliver Level 1 functions especially outside Freetown.
- National – District Relations SPOF at the Local Level.** A cluster of SPOF were also identified in the interviews relating to the weaknesses in the resourcing of DM at the local level that in turn compounded pressures at the national level (see Table 3.8). More specifically, half of all interviewees identified in relation to:
- Lack of dedicated financial resourcing for DM at the district level.* Districts often



“There seems to be little or only remedial financial planning and support for local districts.”

lack dedicated financial resources and targeted contingency budgets from local authorities to coordinate DM efforts at the local level. This is an important SPOF since national structures envisage that the local authorities and stakeholders will lead for Level 1 emergencies and be in support of national efforts for Level 2 and 3 emergencies. Presently there seems to be little or only remedial financial planning and support for local districts actions even under Level 1 emergencies.

- *There is an overreliance on the development of ad hoc and/or specific ‘stand-alone’ local requests and budgeting* during the onset of a crisis or emergency that leads to a delay in disaster response due to the need for related government decisions, funding and action. This also places considerable pressures on local councillors and CDMCs during disaster response to coordinate local requests and demands.
- *Lack of additionality.* Heavy dependency on donors to provide coordination and delivery at the local levels tends to act as a replacement for the lack of district provision rather than providing integrated additional support to ongoing local actions. Local actors look strongly to favoured NGOs, like the Sierra Leone Red Cross (SLRC), rather than local authorities or national organisations, for support in the first instance. This is compounded by weaknesses in the availability and capacity

of local responders, such as the local NFF, to provide fire prevention and/or fire-fighting training to local communities.

- *Lack of resourcing for the production of and/or the updating of risk registers, plans and/or standard operating procedures (SOPs).* In many provinces, updated DRR or response plans, risk registers and/or SOPs are not in existence. In the few districts and provinces where some do exist, they are not widely accessible to key actors, stakeholders and nor are they updated on a regular basis.
- *Few (if any) training or exercising budgets* to allow for updating and testing of risk registers, emergency response plans and/or SOPs.
- *Very limited financial provision* to meet demands of councillors and CDMCs for specific training to improve the skillsets of volunteers, such as flood prevention knowledge, first aid or socio-psychological counselling for victims. There is an acknowledged shortage of volunteers at the local level with important skillsets to enhance local capacity for DRR and disaster response.

A further series of specific SPOF that were perceived by local actors as undermining active and robust community resilience are outlined in Table 3.8. Key observations are incorporated above given the strong synergies across the observations.



8. Human Resources SPOF

Table 3.9: Human Resources SPOF at the National and Local Levels

Sources: Data Collection Methods: National (Interviews, Practitioner Sessions and Workshops) and Local (Focus Groups and Workshops)

SPOF Thematic Area	SPOF Challenges	Details (National)	% of Interviewees	Details (Local)
Human Resources	Insufficient Capacity	<ol style="list-style-type: none"> 1. DMD/NDMA have limited (although now improving) numbers of employed staff to cover all regions/role. 2. Small (although expanding) size of senior leadership team of DMD (ONS)/NDMA. 3. Few staff with specialist DM qualifications in DMD/NDMA. 4. Finite ability of DMD/NDMA to handle simultaneous or cascading emergencies. 5. Huge pressures on DMD/NDMA staffing during registration of affected persons. 6. Limited specific DRR expertise of DMD/NDMA staff. 	94%	<ol style="list-style-type: none"> 1. Local authorities lack or have very limited numbers of employed staff with DM experience and rely extensively on volunteers. 2. Limited size of senior leadership team of local authorities. 3. Limited number of staff with specialist DM qualifications and expertise employed at local level. 4. Very limited ability of local actors to handle simultaneous or cascading emergencies.
HR Expertise	Training and Exercising	<ol style="list-style-type: none"> 1. Variations in training and exercising expertise among DMD/NDMA staff. 2. Restricted NDMA led training and exercising opportunities at district and community levels. 3. Limited DRR expertise and training of DDMC and CDMC levels led by NDMA. 	81%	<ol style="list-style-type: none"> 1. Variations in training and exercising expertise among local actors. 2. Few specific training/ exercising opportunities at district and community levels. 3. Weak focus of any training on DRR at DDMC and CDMC levels.

Human Resources SPOF at the National

Level. An overwhelming 94% of interviewees, alongside participants in all feedback sessions and workshops emphasised that notable SPOF existed in relation to the human resourcing of key DM functions and institutions within Sierra Leone (see Table 3.9). The respective feedback focused not so much on the failings of human resources (in terms of human error or misjudgements) but rather focused on the finite size and capacity of the human resources available that made Sierra Leone’s national cohort of disaster managers a small and exhaustible cohort of experts. This cohort can easily be overstretched when faced with complicated emergency situations, simultaneous multiple hazard events and/ or separate emergencies happening at the same time in different parts of the country. Moreover, the SPOF which existed during the time of the DMD as a small department of the ONS continue – even in 2021 – given the fact that the successor NDMA currently maintains a relatively small, although expanding, staff complement.

More specifically, the findings of the research point to identified SPOF in relation to:

- *DMD (ONS) and now NDMA have finite numbers of employed staff* that are required to cover all regions and roles, multiple types of hazards and increasingly to coordinate all phases of the DM cycle

including coordinating DRR, preparedness, response and even contributing to recovery mandates.

- *Staff Capacity.* Whilst there have been significant improvements in attention to and investment in planning and new technologies to reduce pressures on staff, the obligations and duties on this small complement are often significant, staff-intensive and growing in scale and complexity. This is compounded by the present concerns among some NDMA staff relating to job security as the new agency establishes itself over time.
- *Intensive duties are placed on the small cohort of NDMA staff* including staffing and providing initial site and scene assessments of disasters and the completion of registration and Registered Lists of Affected Persons that can take up significant amounts of critical staff time during the early stages of a disaster.
- *The senior leadership team of both the DMD (ONS) and NDMA is comparatively small.* Whilst that leadership team contains substantial DM experience and is expanding, there remain notable constraints on the leadership’s ability to steer coordination of a complex array of actors especially during the response phase.



“NDMA lacks significant numbers of staff updated and exercised in all areas of DM.”

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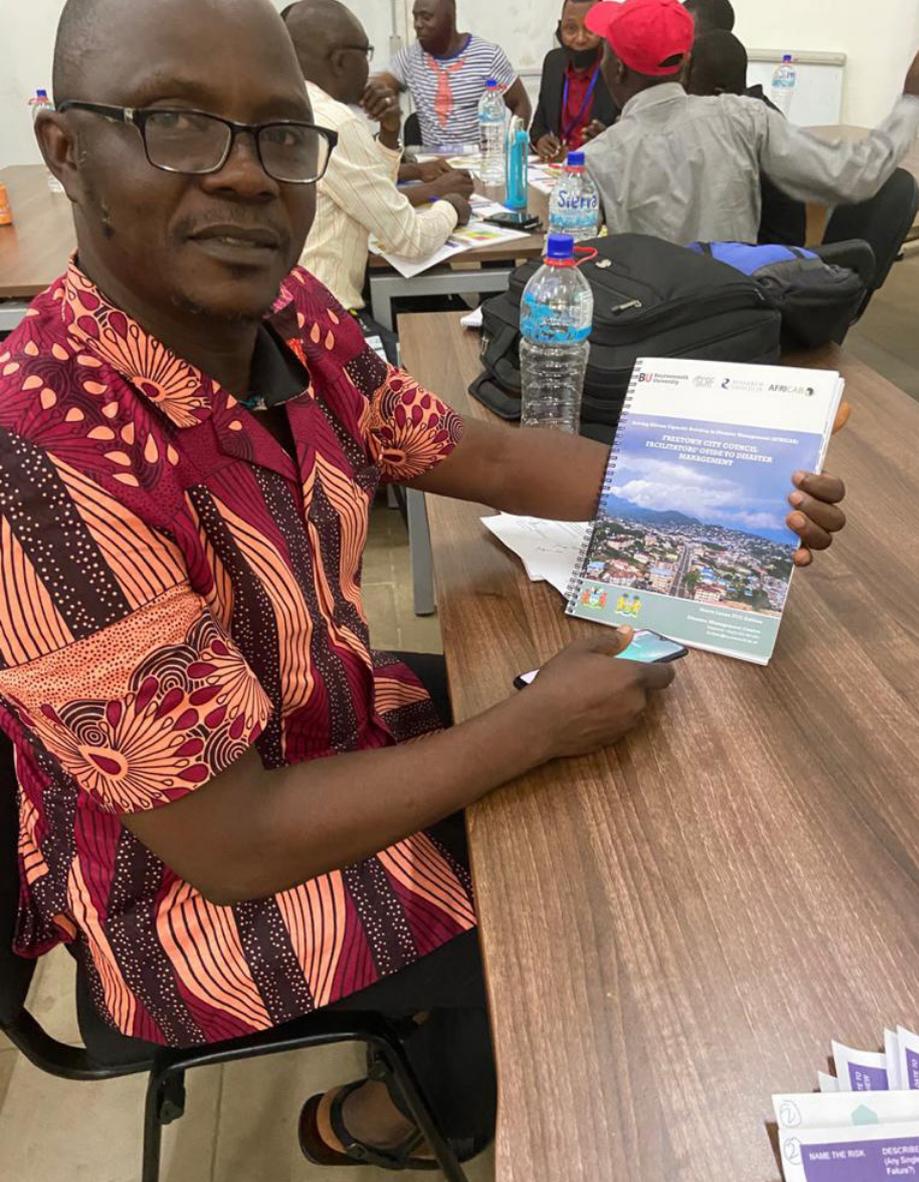
- *Among the limited number of staff employed, there are significant constraints on the development of their respective skillsets.* While all share some basic DM training, there is often a lack of advanced level training and education with only a small minority of staff having attained specialist DM qualifications, and/or university level degrees in disaster management. There remain not just quantitative, but also qualitative, limitations on levels of dedicated DM expertise found within the ranks of the DMD and now NDMA.
- *DRR Expertise.* Regardless of Sierra Leone’s commitments to international frameworks, such as the Sendai UN Framework for DRR, existing expertise in DRR techniques is currently limited with few opportunities to pursue further DRR knowledge and training among DMD (ONS) and now NDMA staff.
- *Limited opportunities to pursue specialised and/or comprehensive training* at both basic and advanced levels due to the lack of dedicated training budgets to finance the career development of DMD and now NDMA staff.
- *Variations in the training and especially direct exercising experience among DMD (ONS) and NDMA staff.* While it is correct that most DMD (ONS) and now NDMA staff will have experienced DM exercising activities per se, levels of participation in covering differing types of hazards varies considerably, and in some cases, there are significant intervals before staff participate in respective exercises. This means that the NDMA lacks significant numbers of staff updated and exercised in all areas of DM with, in many instances, recent experience of exercise participation leading to a heavy reliance on an even smaller number of DM individuals to lead and contribute to NDMA activities and responses.

In practice, these quantitative and qualitative limitations culminate in the limited ability of DMD (ONS) and now NDMA to handle simultaneous or cascading emergencies/ disasters. For example, there are huge pressures on the limited number of formerly DMD and now NDMA staff to deliver accurate registration of affected persons during the onset of simultaneous emergency situations.

There are also qualitative SPOF in terms of levels of available HR expertise. A sizeable 81% of interviewees, alongside participants in all feedback sessions, emphasised that notable SPOF were further accentuated by limitations to pursue career development, career progression, education and training in disaster management. Further specific SPOF were highlighted in terms of:

- *Lack of formal recruitment procedures, competence frameworks and career development strategies* for disaster managers at the national and local levels.





Human Resources SPOF at the Local Level.

Existing DM capacity at the local level is not extensive. There continue to be only a very small number of local employed officials trained or educated to advanced levels in disaster management. Many districts lack access to local DM experts even among DDMC and CDMCs. In general, this restricts interactive engagement between national and local policymakers and officials.

There are also a notable cluster of SPOF identified at the local level in terms of training and exercising to reinforce levels of HR expertise that underscore national viewpoints. These include:

- *Recognition that few training and exercising opportunities exist at district and community DM levels across the country, especially in the provinces. This further constrains interactive engagement*

between national and local officials and in the delivery of joint training and exercising around key hazards.

- *Budget Constraints.* Due to the lack of local training budgets, all local training and exercise activity has to be provided by external NGOs and they largely determine the nature of local training. Where they exist, they often focus on addressing basic operational considerations in terms of First Aid training and fire-fighting rather than DM planning techniques and knowledge
- *Limited DRR expertise and training of DDMC and CDMC levels.* This tends to be largely response-focused, if it takes place or exists at all.
- *Lack of joint training.* While some aspects of DM training and education have improved considerably in the metropolitan Freetown area due to the commitment of FCC to develop Level 1 competences and awareness among local disaster managers, this has not yet translated into a holistic and comprehensive joint training of national and local disaster managers and stakeholders.
- *There remain deficiencies in DRR expertise and training at DDMC and CDMC levels.* Where there are efforts to improve local disaster management, the focus largely remains on response, with a strong tendency to concentrate on galvanising councillors, local volunteers and CDMCs into action. Exercising on the recognition of differences in and implementation of Level 1, 2 and 3 disasters and understanding thresholds for NDMA intervention and actions is notably lacking at the moment, thereby increasing the likelihood of future SPOF occurring.

9. Procedural Issues SPOF

Table 3.10: Procedural Issues SPOF at the National and Local Levels

Sources: Data Collection Methods: National (Interviews, Practitioner Sessions and Workshops) and Local (Focus Groups and Workshops)

SPOF Thematic Area	SPOF Challenges	Details (National)	% of Interviewees	Details (Local)
Procedural Issues	Lack of and Weaknesses in Operational Guides, SOPs and Operational Plans.	<ol style="list-style-type: none"> 1. Lack of up-to-date risk matrices and risk registers at national and local levels. Where they exist, they are often not widely accessible to disaster managers. 2. Lack of up-to-date DRR and response plans that are not widely accessible to disaster managers. Also many areas without SOPs. 3. Lack of clarity among disaster managers on thresholds for interventions. 4. Lack of training and exercising of DRR and/or response plans. Often irregular where they exist and under-funded. 5. Over-reliance upon external financial support and donors for financing of training and exercising. 	88%	<ol style="list-style-type: none"> 1. Lack of up-to-date risk matrices and risk registers covering local and particularly ward level. Where they exist, they are often not widely accessible to disaster managers, CDMCs and volunteers. 2. Lack of up-to-date local DRR and response plans and SOPs that are widely accessible to disaster managers. 3. Lack of clarity among disaster managers on thresholds for interventions. Few linked 'all hazards' arrangements that view local hazards together. 4. Lack of training and exercising of DRR and/or response plans. Often irregular where they exist and under-funded. 5. Over-reliance upon external financial support and donors for financing of training and exercising.
Procedural Issues	Too Focused on Response	<ol style="list-style-type: none"> 1. Focus only on response despite NDMA remit to include DRR and recovery functions. 2. Lack of clarity on criteria for transition out of response 	38%	<ol style="list-style-type: none"> 1. Local arrangements focus almost entirely on response, eg first aid (if at all) and distribution of relief. 2. Little practical focus on DRR and recovery functions. Lack of clarity on criteria for transition out of response.

“Plans are not shared adequately with key stakeholders.”

Procedural Issues SPOF at the National Level. A remarkably consistent finding from the interviews and feedback sessions with practitioners at the national level is the ongoing concern about the lack of a comprehensive suite of contemporary and updated procedures, policies, guidance, plans and SOPs. A striking 88% of interview respondents, accompanied by regular commentary and consistent feedback in the practitioners’ session, confirmed the absence of a strong culture of updated documentation and planning even at the national level of DM in Sierra Leone. While this is significantly improving due to the efforts of the new NDMA, supported by sizeable investment strategies and funding from the World Bank, they are working from an essentially ‘late start’ position. While 2021 should see the drafting and the introduction of, for example, a raft of new DRR and preparedness plans and documentation at the national level, there remain significant SPOF in this area given that the implementation of any plans in 2021 will take more time to address. There will remain an asymmetry between the realities of Sierra Leone’s DRR on the ground and the obligations of meeting UN SDGs and Sendai resilience for some time to come. Identified SPOFs include:

- *Weaknesses in the provision, accessibility and distribution of DM documents.* This includes relatively poor attention to creating contemporary and regularly reviewed and updated risk matrices and risk registers at both national and local levels.
 - *SOP Weaknesses.* While the NDMA is making considerable efforts to begin to modernize and update the existing range of key national DM plans and frameworks in line with its powers under the 2020 legislation, there remain notable gaps and weaknesses at the level of accompanying SOPs. Where they exist, mainly around the disaster response function, they are only presently in draft form and have not been widely enacted. They can also be vague and poorly written with, for example, widespread concern among DMD and NDMA staff about the need for stronger demarcations and thresholds around Level 1, 2 and 3 emergencies criteria that act as the barometer for differing types and levels of NDMA intervention, coordination and leadership. It is often the case that plans are not shared adequately with key stakeholders, so that they are not widely accessible to disaster managers before or even during an emergency.
- *There has been a long-standing lack of attention to DRR issues and limited provision of and commitment towards comprehensive and up-to-date DRR and even response plans.* While the NDMA, with World Bank funding, has begun to address this, the lack of a supportive DRR culture, including update and review, will mean that SPOF around the implementation of DRR planning will remain for the foreseeable future.
 - *Lack of clarity in 2021 on levels of disasters among disaster managers and thresholds for interventions.* Even when this is addressed, SPOF exist around likely potential uneven implementation and diversity in interpretation among stakeholders.
 - *Limited opportunities for training and exercising of DRR and/or response plans.* Often irregular and under-funded where such opportunities do exist.
 - *Over-reliance upon external support and donors for financing of training and exercising.* For the most part they rely upon NGOs initiatives, provision and funding which tends to lead to insular rather than systematic planning of exercising. Often the provision and type of exercising is defined by the perspectives and agendas of the donors rather than by the detailed and nuanced requirements of the DM bodies in Sierra Leone.

“There is a notable lack of or very limited access to up-to-date risk matrices.”

3

The striking consensus and findings regarding procedural and planning issues sheds light on and reinforces a secondary finding from the field research at the national level. This is that despite a more focused and modernised remit being provided by 2020 legislation in relation to the establishment of the NDMA (especially in relation to DRR and recovery functions) the SPOF around weak, immature or poorly updated and reviewed planning and procedures imply that there is still a prevailing lack of clarity and criteria governing NDMA guidance on the transition out of response and into recovery modes (raised by 38% of interviewees and in 66% of the practitioners' feedback sessions). This SPOF was also illustrated in practice in the case of the Susan's Bay Fire incident in March 2021 when discussions about the ending of the response phase being put forward by the NDMA were complicated by a lack of clarity and the need to discuss the process for considering the recovery options for the future of Susan's Bay. Limitations in procedures governing transitions between response and recovery led to significant delays from April to July 2021 regarding the future direction of the recovery process.

Procedural Issues SPOF at the Local Level:

- *There is a notable lack of or very limited access to updated risk matrices and risk registers at local levels so that nuances in hazards and threats and the interdependencies and shared vulnerabilities between specific wards and districts are not given sufficient attention. Where they are in existence, local risk registers are often not widely accessible to, or updated regularly by, local councillors, CDMCs and volunteers.*
- *There are few regularly up-to-date DRR and/or local emergency response plans. Again, where these exist, they are often not widely accessible to disaster managers and/or used as a basis for local exercising.*

This leads to local tensions between councillors and CDMC leaderships as to responsibilities for local actions in relation to DRR and disaster response.

- *Lack of clarity on levels of disasters among disaster managers and thresholds for interventions by respective bodies. Not normally declared by local actors leading to confusions as to which organization(s) is/are responsible for lead in interventions.*
- *Lack of training and exercising of DRR and/or response plans. Often irregular where they exist and under-funded, which means that local CDMCs are often ill-informed of national guidance and initiatives.*
- *Local scheduling and delivery are almost solely reliant on external funding and capture. Donors fund limited training projects in selective communities rather than holistic training opportunities across local areas.*

Furthermore, the culture of focusing largely on response leads to two specific SPOF at the local level namely:

- Local CDMC arrangements have traditionally focused almost entirely on operational aspects of response, such as first aid and the distribution of relief supplies.
- Little practical focus on recovery functions. Councillors and CDMCs often suffer from a lack of clarity on criteria for transition out of response and which national bodies they are to engage with.

10. Lessons Learned SPOF

Table 3.11: Lessons Learned SPOF at the National and Local Levels

Sources: Data Collection Methods: National (Interviews, Practitioner Sessions and Workshops) and Local (Focus Groups and Workshops)

SPOF Thematic Area	SPOF Challenges	Details (National)	% of Interviewees	Details (Local)
Lessons Learned		<ol style="list-style-type: none"> 1. Weak focus (although improving) on After Action Reviews (AARs) and formal mechanisms for capturing lessons identified from emergencies. 2. Lack of systemic mechanisms and procedures in place to implement lessons learned leading to repetitive issues and SPOF during onset of disasters. 	50%	<ol style="list-style-type: none"> 1. Limited engagement of local actors in After Action Reviews (AARs) and formal mechanisms for capturing lessons identified from emergencies. 2. Poor access to GIS results and systems that can inform local disaster planning. 3. CDMCs often lack guidance, incentives and procedures on how to implement lessons learned leading to repetitive SPOF during onset of disasters.

Lessons Learned SPOF at the National Level.

Building on the prior findings in relation to SPOF associated with missing or deficient documentation, it is also notable that 50% of interview respondents and feedback at all levels (100%) of the practitioners' sessions also highlighted SPOF in relation to the identifying and learning of lessons from the experience of disasters (see Table 3.11). Most notably:

- *Limited systematic mechanisms and procedures in place to implement Lessons Identified leading to repetitive failures to implement lessons in time for future disaster events.* The NDMA continues to significantly improve procedures including the production of well-structured AARs to formally capture lessons identified from disaster events (see Thornhill and Rogers, 2021). Observations registered from stakeholders as part of the ongoing evaluation work of AFRICAB revealed

that the NDMA's published AAR on the Susan's Bay incident in April-May 2021 for example was generally well-received and perceived as well crafted. However, two further SPOF were consistently identified at key practitioner meetings.

- *Weaknesses in the usage of virtual technologies and platforms* like Skype, Zoom or Microsoft Teams at important AAR consultation meetings leads to key stakeholders not being able to attend the very limited number of AAR related meetings. This led to perceptions among key stakeholders around limited consultations and a lack of accessibility to input into AAR processes.
- *Follow-up of AARs are not robust.* Lessons identified are not routinely being translated into Lessons Learned and then implemented. Stakeholders remain unclear as to how AARs are formally taken

forward procedurally to affect future implementation. This leads to concerns that AARs are seen as the end of the processes and procedures of review rather than as valuable input into enhanced continuous review. As a case in point, the consistent demands among stakeholders to have wider virtual access to key NDMA meetings on the implementation of Lessons Learned has so far been not uniformly or consistently applied.

Lessons Learned SPOF at the Local Level. The national oriented SPOF in relation to weak implementation of Lessons Learned is often compounded at the local level. Three specific SPOF were cited extensively during the focus groups and practitioner workshops namely:

- *Inconsistent access to GIS results and systems prevents important insights*

and data that can inform local disaster planning from filtering down to local councillors and CDMCs in a way that could enhance DRR and disaster preparedness.

- *Limited engagement of local actors in After Action Reviews (AARs).* Lessons identified in AARs are often based on quickly called meetings that lead to poor local involvement and limited capture of local lessons. Often key local actors, like chiefs, are not informed of AAR meetings and CDMC and volunteer representation are often poor at AAR/recovery meetings.
- *Lack of systemic guidance and procedures and incentives from NDMA* mean that many CDMCs and volunteers are unclear on how to implement Lessons Identified which inevitably leads to the repetition of SPOF during future disasters.



11. Coordination Challenges SPOF

Table 3.12: Coordination Challenges SPOF at the National and Local Levels

Sources: Data Collection Methods: National (Interviews, Practitioner Sessions and Workshops) and Local (Focus Groups and Workshops)

SPOF Thematic Area	SPOF Challenges	Details (National)	% of Interviewees	Details (Local)
Coordination Challenges	Challenges in Ministerial Coordination	<ol style="list-style-type: none"> 1. Ministries often view DMD/NDMA as a replacement rather than a coordination body during emergencies. 2. Lack of permanent capacity within ministries. The practice of establishing official DM contact points in ministries is not well developed. 3. Lack of training and exercising within ministries on handling disaster related functions. 4. Lack of implementation of lessons identified by ministries even when AAR or reviews are undertaken by DMD/NDMA. 	69%	<ol style="list-style-type: none"> 1. Weak DRR activities of ministries means they are not properly engaged with councillors and CDMCs in promoting DRR in communities. 2. Confusing role in disaster response; multiple levels of representation from differing ministries visiting disaster scenes provokes confusion among CDMCs and volunteers on chains of command. 3. Contact points for liaison and guidance in ministries are often unclear to local actors. Local actors unsure who to contact at ministries.
Coordination Challenges	Coordination of NGO Aid/ Private Sector	<ol style="list-style-type: none"> 1. Heavy reliance on donor NGOs to implement pillar operations during disasters. 2. High propensity for siloed operations and weak communication between donors/NGOs and DMD/NDMA. 3. Weak inter-pillar coordination at meetings, focusing on reporting back activity rather than coordinating future activities. 4. At Level 1 disasters local authorities often lack any capacity to coordinate NGOs effectively. 	44%	<ol style="list-style-type: none"> 1. Dominant role of donor NGOs leads to local actors coordinating more with NGOs than with government representatives. 2. High propensity for siloed operations and weak coordination between donors/NGOs and DMD/NDMA leads to pressure on local actors. 3. Weak inter-pillar coordination at meetings leads to frustration among local actors. 4. At Level 1 disasters a lack of local authority capacity leads to negative local perceptions.

“HR and resourcing limitations effectively restrict the capacity of the then DMD and now NDMA.”

3

There remain significant concerns about SPOF in relation to the delivery of effective coordination during response phases. Some 69% of interview respondents and three-quarters (75%) of the respective practitioner feedback sessions produced identifiable SPOF in relation to DMD/NDMA coordination.

This is not to say that the former DMD and now NDMA have not amassed extensive experience and developed a comprehensive and often well-functioning pillar system to enhance the coordination of response across ministries and other governmental agencies, relevant participating NGOs and local authorities, actors and communities. Rather, specific SPOF were identified, some of which have more permanent resonance and some were attributed to procedural challenges and issues. Identified SPOF were centred around two major dimensions in relation to ministerial coordination and to coordination issues with NGOs and the private sector.

Challenges in Ministerial Coordination SPOF at the National Level:

- *Ministries often viewed the DMD and now NDMA as a replacement rather than a coordination body in relation to disasters.* The practitioner sessions recorded notable concerns about DMD/NDMA ‘mission creep’ compared to resourcing over time. Ministries often placed unrealistic expectations on the DMD/NDMA to deliver operational rather than coordination functions, which it was neither designed nor mandated to do. 69% of interview respondents highlighted how they saw the DMD, and now NDMA, as providing the lead in response provision akin to emergency responders and in providing functions and services that meant in practice that they were replacement bodies for weak ministerial action and capacity (see Table 3.12). The NDMA was often seen to, and expected to, fill the gaps during

and after emergencies and to take over from what the ministries could and should provide. Moreover, the HR and resourcing limitations effectively restrict the capacity of the DMD and now NDMA to meet these gaps, prompting inappropriate criticism of the performance of the DMD/NDMA.

- *Notable variations in the capacity and experiences within respective ministries towards disaster response and especially transition to recovery.* This becomes a highly discernible SPOF during the transition from disaster response to recovery when government ministries are often required to take on the mantle of recovery strategies, operations and implementation. On many occasions this leads to delays in recovery due to the need to develop ad hoc procedures in the ministries to deal with recovery questions.
- *Lack of effective coordination among ministries in the development of DRR strategies and planning.* All the interview respondents that highlighted the SPOF in coordination also cited the example of coordination and implementation of existing laws on land ownership and transfer, urban planning regulation and implementation and enforcement of by-laws and sanitation rules as a clear SPOF in terms of DRR coordination among ministries.

Challenges in Ministerial Coordination SPOF at the Local Level. The national oriented SPOF in relation to ministerial coordination have implications for SPOF at the local level. Three specific SPOF were cited extensively during the focus groups and practitioner workshops:

- *Weak DRR activities of ministries* means they are not properly engaged with councillors and CDMCs in promoting DRR in communities at the time of disaster by many local actors.
- *Confusing role in disaster response.* Often multiple levels of representation from differing ministries and government visiting disaster scenes leads to confusion among CDMCs and volunteers on chains of command.
- *Weak contacts points for liaison with ministries* and guidance from ministries that is often not clear or easily accessible for councillors, CDMCs and volunteers during onset of disasters leads to too many impromptu arrangements and an overreliance on personal contacts to liaise with ministries.

Coordination of NGOs and Private Sector SPOF at the National Level. In general, coordination with NGOs and to a lesser extent the private sector was considered to be strong and well developed, honed through regular cooperation in pillar structures at times of disaster response and generally good consultation and participation of NGOs at DMD and NDMA meetings. Nevertheless, 44 per cent of interviewees and 50 per cent of practitioners' feedback sessions identified specific potential and real SPOF that need further attention, including:

- *Heavy reliance on donor NGOs* to implement pillar operations during disasters.
- *High propensity for siloed operations* and weak communication between donors/ NGOs and DMD/NDMA.

- *Weak inter-pillar coordination at meetings* – often focusing on reporting back activity rather than agreeing and coordinating future activities.
- *Limited capacity.* At Level 1 disasters, local authorities designated with leading the response often have little capacity to coordinate NGOs effectively. There are routinely no dedicated staff available in many regions and a heavy reliance on volunteers who are often in a weak position to direct and coordinate NGO efforts.

Coordination of NGOs and Private Sector SPOF at the Local Level. The national oriented SPOF in relation to coordination with NGOs and the private sector have implications for SPOF at the local level. Specific SPOF cited extensively during the focus groups and practitioner workshops include:

- *The dominant role of donor NGOs* in implementing pillar operations during disasters leads to local actors coordinating more with NGOs than with government actors.
- *Relationship Management.* The high propensity for siloed operations and weak coordination between donors/NGOs and DMD/NDMA leads to pressures for local actors in maintaining cordial relations with all relevant partners.
- *Weak inter-pillar coordination at meetings,* often focusing on reporting back activity rather than agreeing and coordinating future activities, leads to frustration among local actors about slow or ineffective coordination and uncertainty about next steps affecting local communities.
- *Limited capacity.* At Level 1 disaster, the lack of local authorities' capacity leads to negative local perceptions and lack of confidence.

“Ministries are not properly engaged with councillors and CDMCs in promoting DRR.”

12. Communication & Technology Challenges SPOF

Table 3.13: Communication Challenges SPOF at the National and Local Levels

Sources: Data Collection Methods: National (Interviews, Practitioner Sessions and Workshops) and Local (Focus Groups and Workshops)

SPOF Thematic Area	SPOF Challenges	Details (National)	% of Interviewees	Details (Local)
Communication & Technology Challenges	Deficiencies in Communication & Technology	<ol style="list-style-type: none"> 1. Lack of resilient and reliable internet connectivity inhibits coordination and communication particularly in the regions. 2. Over-reliance on private mobile phones to deliver coordination and messages among responders and public officials. 3. Power cuts and inconsistent power supply inhibit coordination. 4. Reliance on old IT systems and Word/Excel packages for compiling key information leads to slow dissemination. 5. Weak usage of virtual platforms (Zoom, Teams, Skype) at inter-pillar meetings inhibits participation of actors and effective and speedy coordination. 	75%	<ol style="list-style-type: none"> 1. Highly varied abilities of local districts to access key guidance via internet, smart phone or website applications. 2. Strong reliance on private mobile phones by local actors to receive coordination and messages can be undermined by dead spots and expensive access to credits. 3. Power cuts and unavailable/inconsistent power supply inhibit coordination at scenes in many instances 4. Weak usage of virtual platforms (Zoom, Teams, Skype) at inter-pillar meetings inhibits participation of local actors and effective and speedy coordination of those not able to travel. 5. Absence of dedicated and equipped Emergency Operations Rooms (EORs) leads to poor coordination and weak engagement of local actors.

Communication & Technology Challenges SPOF at the National Level. Alongside coordination, there are consistent SPOF identified in the terms of the technological impediments to the delivery of crisis communications and coordination. Indeed, this was a consistent theme of three-quarters of interviewees (75%) and two-thirds (66%) of the practitioner feedback sessions. In particular, technical and procedural problems in terms of the delivery of effective crisis communications and

coordination alongside hardware and physical deficiencies with ICT systems were identified as recurrent SPOF. More specifically, the physical deficiencies and SPOFs related to:

- *The lack of resilient and reliable internet connectivity* clearly inhibits coordination efforts and the delivery of crisis communications particularly in the provinces. There are also great variations in terms of ministerial capacity in this



“The lack of resilient and reliable internet connectivity clearly inhibits coordination.”

regard with the Department of Public Health and Sanitation and NaCOVERC having relatively robust IT systems while other ministries suffer major incapacity and lack of connectivity.

- *Equipment Limitations.* The almost complete reliance on private mobile phones to deliver crisis communication and messages even among responders and public officials leads to system wide failures if networks are compromised or simply not functioning.
- *Power cuts and inconsistent or unreliable power supplies* alongside a widespread lack of available generators inhibit the ability to deliver consistent and timely crisis communication.

These physical SPOF are compounded and supplemented by widely cited procedural SPOFs in terms of crisis communication. Some 75% of interviewees also cited:

- *Poor maintenance provision and financing* to keep systems updated, operational and online. Even when provision is secured, there are common issues with breakdowns.
- *Reliance on old IT systems* and Word/Excel software packages for compiling key information leads to slow compilation and dissemination of data and information to inform crisis communication.

Communication & Technology Challenges SPOF at the Local Level. The national oriented SPOF in relation to coordination have implications for SPOF at the local level. Specific SPOF cited extensively during the focus groups and practitioner workshops include:

- Highly varied abilities of local districts to access key guidance via internet, smart phone or website applications or communicate with national agencies and responders.
- *Strong reliance on private mobile phones* by local actors to receive coordination and messages can be undermined by dead spots and expensive access to credits.
- *The lack or absence of dedicated, properly equipped Emergency Operations Rooms (EORs)* in the regions and local areas means that coordination of response activities relies almost entirely on cheap yet unsophisticated virtual solutions like WhatsApp groups that have limited functionality. It also inhibits the use of virtual platforms by key local actors.
- *Power cuts and unavailable/inconsistent power supply* inhibit coordination at disaster scenes in many instances.



Chapter 4

Resolvable Single Points of Failure (SPOF)

“Resolvable SPOF represent ‘fixable’ areas of activity or policy.”

This AFRICAB Final Report considers those SPOF that national and local disaster managers, policymakers and stakeholders in Sierra Leone have commonly identified as resolvable in the short and medium terms.

These resolvable SPOF represent ‘fixable’ areas of activity or policy. They are realistic points for future action that have a notable likelihood of producing significant impacts and enhancements to DM in the country. In simple terms, they frequently represent ‘quick wins’ for action that will produce disproportionately large and positive impacts on disaster management. On this basis, they are worthy of special attention in this AFRICAB Final Report.

General Observations

The research findings indicate that:

- There have been and continue to be notable improvements in many areas of DM in Sierra Leone in recent years. There is therefore a strong foundation on which to identify, refine and build so that those SPOF identified as resolvable can be ‘fixed’ at both the national and local levels.
- There are striking similarities in the views of participating national and local actors and stakeholders on resolvable SPOF and on where joint and comprehensive action will produce clear improvements in disaster management.
- These resolvable SPOF represent significant ‘windows of opportunity’ for future action since there is a general

consensus among national and local actors on what is fixable and what needs to be done to fix them.

- Nevertheless, without further action, there is a strong likelihood for SPOF to continue that may result in detrimental and damaging breakdowns in part or all of the DM system in Sierra Leone.
- There is therefore an important opportunity cost if these resolvable areas are not attended to quickly and/or where existing actions are not continued and further enhanced for the future.

Specific Observations

National Level	District Level
Guides, SOPs and plans (81%)	District resourcing (budgets)
HR resources, training & exercising (81%)	Hazard profiling and risk assessment
DRR focus & EWS training (75%)	Guides, SOPs and plans
Relations with districts (district coordination) (75%)	Common technologies (VHF phones, reliance on mobile phones)
Crisis communication support and investment (68%)	DRR focus & EWS training
Managing volunteers (68%)	Crisis communication training
Leadership coordination (68%)	DDMC/CDMC leadership training
Leadership training (68%)	Responders (Fire, Police)
Ministerial coordination (50%)	Compliance and enforcement
Communication & Technology (50%)	Environmental issues (deforestation)

Table 4.1: Resolvable SPOF at National and District Levels

Resolvable ('Fixable') SPOF: The specific top ten most significant SPOF identified as resolvable and 'fixable' are presented in Table 4.1. It is important to highlight that the data analysis undertaken using the SPOF Lens reveals that:

- There is a strong consensus in terms of commonly identified resolvable SPOF with six (60%) of the top ten areas featuring in both listings;
- There is also a similar level of prioritization in terms of resolvable SPOF. Four identified SPOF (80%) feature in the top five in both listings;
- It is only in terms of estimated time frames for achieving action that will fully resolve the SPOF that there were some differences. Local actors were broadly more pessimistic than national actors as to the ability to implement changes quickly that would 'achieve the fix' and resolve the SPOF within a five-year time frame.

Residual ('Partly Fixable') SPOF: There is also strong agreement between national and local actors as to those SPOF that are residual or 'partly fixable', presented in Table 4.2. These should be considered areas for future action that could be merited in terms of reducing the risk of likelihood of SPOF occurrence even if such actions would not result in the complete removal of the SPOF entirely. The research findings suggest that these identified SPOF areas are regarded as only partly fixable since they require significant increases in financial resourcing alongside a refocus in legislation, enhanced enforcement in terms of disaster management, governance and ultimately some behavioural change on the part of both stakeholders and the public at large. More specifically, there is a strong consensus that SPOF could be partly alleviated in three specific areas:

- Urban planning and enhanced enforcement of compliance with local DRR strategies;

National Level	District Level
Critical infrastructure (road networks) (38%)	District representation
Store management & stockpiling (38%)	Resistance of local community to DRR
Logistics & funding of vulnerable groups (38%)	Logistics & funding of vulnerable groups
Urban planning & compliance (38%)	Local stockpiling

Table 4.2: Residual SPOF at National and District Levels

- Protection of vulnerable groups;
- Logistical management and stockpiling.

These partly fixable SPOF are thus worthy of attention and focus as part of a national risk reduction strategy that will lead to some enhancement in DM governance and provision in the country.

Resistant ('Unfixable' SPOF): Table 4.3 shows those areas that were commonly regarded as resistant or 'unfixable' SPOF. They provide a 'reality check' on what is commonly perceived

as the 'art of the possible' in Sierra Leone today. More importantly, they suggest that there remain significant limitations on the ability of both national and local stakeholders to achieve behavioural changes, especially among the general population, that would remove some SPOF completely.

From a policy making perspective, they highlight the importance of concentrating on those SPOF that are either 'fixable' or 'partly-fixable' in order to achieve significant enhancements in DM.

National Level	District Level
Urban planning & compliance (50%)	Critical infrastructure (road networks)
Critical infrastructure (road networks) (38%)	Resistance of local populations
Resistance of populations (88%)	Registration of affected persons
Registration of affected persons (88%)	Legislative compliance & enforcement
General law enforcement & compliance (68%)	

Table 4.3: Resistant SPOF at National and District Levels



SENEGAL
Mansa Konko
Basse Santa Su
Buruntuma
Koundara
Labé
Mamou
Freetown
SIERRA LEONE
Makeni
Magburaka
Koidu
Bo
Kenema
Monrovia

Chapter 5

Recommendations

“Interventions are likely to have substantial positive impact.”

This AFRICAB Final Report offers eight main recommendations for future action that reflect a cross-cutting analysis of findings (see Table 5.1). These recommendations reflect commonly identified areas of SPOF at both the national and local levels and have strong synergies and

agreement on resolvability in the short term (less than 5 years). They also build upon areas where the DMD and NDMA have established a strong trajectory for existing and future action and thus where interventions are considered likely to have substantial positive impact.

Technical	Revision/Enforcement of standards and codes – fire safety, urban planning codes and by-laws.
Coordination	Ministerial, National-District, NGO/Private Sector.
Communication	Media messages, media training and communication technologies.
Capacity Building	Comprehensive DRR focus; EWS expansion and awareness.
Procedural	Guides, SOPs, plans, risk matrices and registers, with increased emphasis on DDR and recovery, implementation and compliance.
Human Resources	Investment and Training – HR capacity, competency, expertise, training and exercising.
Physical	Infrastructure investments in stores and logistics, road and electricity networks; investments in district EORs.
Economic	Dedicated DM funding at national and district levels; funding transitions from response to recovery phases.

Table 5.1: Recommendations and SPOF areas registering strong consensus for action

Technical

Urgent revision and enhanced enforcement and prioritisation of existing technical standards. SPOF relate to missing or unenforced technical standards and codes in relation to fire safety, sanitation, storm drains

and urban planning codes and by-laws. These lead to repeated vulnerabilities to fires, floods and landslips in many communities across Sierra Leone. These SPOF need immediate attention if there is to be enhanced resilience among local communities during both the dry and rainy seasons.

Technical Immediate Action Points:

1. A Working Coordination Group led by the NDMA should be established to coordinate a review of technical standards in relation to the implementation and enforcement of:
 - a. Fire safety measures
 - b. Proper management and regular clearance of storm drains and sewers
 - c. Urban planning codes and by-laws.

The focus of this NDMA multi-agency Working Group is to develop and implement a new strategy for technical standards critical to effective DM. The Group and strategy will identify implementation and enforcement measures to remove logjams and blockages that lead to continued vulnerabilities of local communities.

Coordination

AFRICAB research findings reveal major capacity deficiencies and a lack of expertise among many ministries at present in terms

of disaster management. SPOF were also commonly identified in the levels of national-district coordination and in the over-reliance on, and challenge of coordinating with, the NGO and private sectors.

Coordination Immediate Action Points:

1. Creation of a ministerial DM governance support programme: this would seek to build and mentor DM capacities within the respective ministries (and NDMA) responsible for delivering DM related functions at all phases of the DM cycle;
2. A new National-District agreement that outlines the characteristics and implementation of national-district DM responsibilities that can inform the development of integrated local DM delivery units that can work alongside the NDMA and ministries at Levels 1, 2 and 3 disasters and emergencies;
3. A new engagement policy with NGOs and the private sector to formally establish the parameters of NGO involvement in pillar frameworks established by the NDMA at times of crises, disasters and emergencies. While the value of NGO commitments and contributions is universally acknowledged, this new engagement policy should formally address and establish greater joint understanding of the rigours of NDMA and ministerial level coordination and interventions and the limitations of NGO involvement and funding which currently remain unclear in many instances. Too often, NGO coordination remains fragmented leading to NGO agendas being hard to coordinate with national DM planning.

Communication

Issues of crisis communication are commonly seen as having the strong potential to become SPOF. This relates to issues of crisis communication policy development and coordination, including deficiencies in pre-determined media messaging and weaknesses in the transmission of crisis communication messages between the national and local

levels. There are also issues in terms of limitations in media communication training and social media engagement guidance among many DM officials at the national and particularly local levels. Further SPOF relate to the use and availability of communication networks and the heavy reliance on mobile networks by responders, stakeholders and even communities.

Communication Immediate Action Points:

1. Further development of NDMA led multi-agency communication policy and guidance to encourage a culture of developing pre-disaster media messaging and social media engagement formats across the NDMA, ministries and local actors;
2. A stronger focus on creating and regularly updating directories of key contacts, focal and liaison points with full and relevant contact information that can be disseminated to stakeholders thus facilitating communication and coordination during DRR, response and recovery;
3. Development and delivery of a crisis communication and media management training programme;
4. New Memorandum of Understanding (MOUs) with mobile networks and internet suppliers to further enhance NDMA, ministerial and responder prioritisation of access to mobile phones;
5. Enhancements in joint planning between DM actors and technology providers to ensure that the prevalence of communications 'dead spots' and the lack of mobile phone coverage in key areas of Sierra Leone are addressed as soon as possible.

Capacity Building

Recognition needs to be given to the fact that new funding and project initiatives aimed at enhancing the hydrological and meteorological EWS capacities of Sierra Leone are bearing

fruit in 2021. However, there must also be an acknowledgement that major SPOF exist in terms of the timely transmission of EWS information to stakeholders, agencies, local communities and actors.

Capacity Building Immediate Action Points:

1. Development of a multi-agency 'National EWS technical dissemination' training initiative, focused on building focal expert contact points in all ministries and agencies that have expertise in interpreting EWS-generated information and interpretations for application to their own respective policy domains;
2. Creation of a local EWS technical information programme to engage local disaster managers, delivery units of local authorities, DDMC and CDMC volunteers and tribal chiefs and local community leaders in all provinces. The aim is to further implement EWS engagement strategies so that technical understanding of flooding, fire and landslide data is better understood and can inform new local risk registers and local emergency action plans.

Procedural

Further enhanced updating and comprehensive review of plans, SOPs and guides is required. Presently there are many areas of response planning that rely upon draft plans that are often both in need of updating and not fully implemented. In addition, while the NDMA is making great efforts to enhance documentation and guidance in relation to DRR, there remain issues in terms of weaknesses in the regular updating of, and general lack of awareness, of risk matrices and risk registers that can guide planning

and a lack of development for thresholds for interventions between Level 1, 2 and 3 disasters. The situation is particularly acute in terms of the lack of comprehensive DRR plans, risk matrices and risk registers at the local level and the inevitable synergies between them. Equally, SOPs that can enhance implementation of DRR and response planning are often missing and require urgent action since stakeholders lack familiarity. There is also a particular SPOF in terms of addressing the need for developing 'transition planning' between response and recovery phases to avoid delays in the implementation of recovery efforts and to improve understanding of transitions of leadership.

Procedural Immediate Action Points:

1. NDMA Working Coordination Group established to develop implementation strategies for new national DRR plans and local DRR plans (as appropriate);
2. NDMA Working Coordination Group to develop implementation strategy for the promotion and development of a revised national risk register as well as local risk matrices and registers for the provincial and eventually district levels that can subsequently inform and lead to the completion of local emergency action plans. This group could build on the pioneering work done by the AFRICAB project in the case of Freetown in 2020-21;
3. NDMA to revise and develop a new Transition Planning Strategy to advise stakeholders on the aims, objectives, and parameters governing the smooth transition from response to recovery planning and actions. Particular attention would be paid to ensuring this strategy is developed in conjunction with other ministries, agencies, local authorities and NGOs to ensure smoother transitions in the future.

Human Resources

Comprehensive further investment is required in human resources in disaster management. While the establishment of a dedicated DM agency is a major step forward in Sierra Leone's DM governance structures and the NDMA is already having a positive effect in terms of refining future agendas for and enhancing coordination of disaster management, there still remains a major 'capacity versus expectations' gap. As part of the 2020 legislation, NDMA is now central to DM coordination across all phases of the DM cycle and has many legal responsibilities. There are mounting pressures and expectations that the new agency can deliver across DRR and mitigation, disaster preparedness and response as well as coordinating recovery activities. Moreover, there is a strong propensity for permissive 'mission creep'. Many other units of government, including ministries, fall

back and rely too easily on NDMA to deliver activities that are normally associated with their respective ministerial remits but which presently they lack the inclination, capacity or capability to deliver themselves. This propensity for 'mission creep' must also be set against the finite capacity of the NDMA. Whilst the NDMA senior leadership is highly experienced, it is small in size, and the number of dedicated NDMA staff is limited. There are also notable needs to, as a bare minimum, expand the training and exercise experience of all staff and, at best, to provide career development opportunities for them to secure dedicated disaster management-related expertise and academic qualifications. Severe and scalable SPOF exist at present in terms of the ability of the small, yet highly experienced and very dedicated staff of the NDMA to handle simultaneous and/or multiple disaster events, especially if they are occurring in different parts of the country.

Human Resources Immediate Action Points:

1. Funding strategies underpinning the new NDMA need to be carefully reviewed and managed to ensure that NDMA staffing is increased in line with rising responsibilities;
2. A comprehensive NDMA training policy, including career development mapping, should be devised to expand training and exercising opportunities on an annual basis among staff of the NDMA and key ministries likely to be involved in DM activities. The development of multi-agency cooperation and expertise should be supported across the range of hazards and along the sectoral-specific elements of disaster management. The NDMA training policy should also allow for formal career development and mentoring of staff to enable them to acquire formal DM qualifications that will build a specialist DM cohort of trainers for the future among NDMA and selected stakeholders;
3. Local delivery unit support and development policy. It is essential that a new national policy aimed at fostering local delivery units in DM among the local authorities is developed. This will help to address key SPOF in the ability of local authorities to lead on Level 1 designated disasters, effectively supporting the vital but hard-pressed work of the NDMA and enhancing coordination and capacity building with local DDMCs and CDMCs;
4. Expansion in technical assistance training for DDMCs' and CDMCs' leadership and volunteers. Building on the best practice work developed in the Freetown area (see Miles et al, 2020; FCC 2021) in terms of Level 1 disaster training for all Councillors, DDMCs and CDMCs, the potential for expansion to all provinces of Sierra Leone should be taken forward.

Physical

Addressing infrastructure issues that lead to repetitive and enhanced vulnerabilities to disasters. In terms of immediate resolvability, attention should be given to enhancing physical assets such as warehouse and logistics management and effective local emergency operations rooms (EORs) for priority planning and investment. Issues with warehouse and logistical management were regularly cited as problems, particularly at local level. This relates primarily to the stockpiling of assets (eg fire extinguishers, first aid kits, tools, sandbags etc) among local

communities across the country to enhance their self-reliance, especially given the SPOF relating to the ability of NDMA and responders to attend scenes quickly in many parts of the country. A commonly cited SPOF regarding wider physical issues relates to the road and electricity networks, in which an enhanced focus on inter-ministerial coordination to address these issues is of paramount importance. Also of concern is the need to develop a new inter-ministerial strategy for enhancing the safety of local electrical supply systems that are becoming a major and regular source of fire outbreaks across urban areas of Sierra Leone in 2021.

Physical Immediate Action Points:

1. Development of an implementation strategy for local stockpiling and store management. Building on the substantial improvement of the DMD/NDMA capacity in terms of logistical management, attention needs to be focused on encouraging local stockpiling, physically secure storage and warehouse management strategies at the local level. Local catalogues of assets need to be drawn up among local communities across the country to detail the parameters of their community resilience;
2. Investment in the NDMA national emergency operations rooms and alongside this, investments in establishing effective local emergency operations rooms (beyond virtual provisions like emergency WhatsApp groups) need to be prioritized to create an integrated framework for improved situational awareness in the country (see Miles, 2021);
3. Increased strategic capacity-building in responders. Continuing investment to enhance the physical equipment levels of the NFF and SLP needs to be increased. There remains a pressing need to modernize responders' capabilities and address capacity gaps, such as in HAZMAT equipment. This is especially acute outside Freetown;
4. A new NDMA MOU and strategy focusing on encouraging greater cooperation with the country's electricity suppliers needs to be achieved as a matter of priority. This strategy should focus on new implementation measures to enhance robustness, system resilience and fire prevention capacities. This could involve consideration of developing new innovative public-private partnerships (PPPs) and relationships in accordance with the UN Sendai Framework for Disaster Risk Reduction;
5. Fresh engagement with a view to developing a sustainable road planning and building strategy that fully and specifically accommodates the demands of meeting the ever-increasing DM challenges and climate change conditions. The views and priorities of key responders, delivery of response and relief efforts to vulnerable communities and areas need to feature more prominently in impact and needs assessments for road planning and building in the future.

Economic

Developing dedicated DM funding provisions at national and local levels. At present planning thresholds in terms of the declaration of Level 1, 2 or 3 disaster events, where they exist, are not accompanied by complementary financial planning and provision. Nor are any forms of transitional planning from response to recovery balanced with prior financial planning or understanding of obligations. This means that even at the national level, planning of contingencies to handle escalations of disasters is not matched by funding provisions.

At the moment, they are dealt with, in many instances on a piecemeal and case by case basis. There is also a reflex to rely heavily on external NGOs for funding and to draw upon budgeted external programmes and plans given the lack of systemic transparent contingency planning at the governmental level. The situation is particularly pressing at the local level. The lack of dedicated DM funds as part of local authority budgeting leads to major SPOF in local capacities and planning for handling disaster incidents within their jurisdictions and catchment areas.

Economic Immediate Action Points:

1. Revision of 'Criteria for Declarations of Emergencies and Thresholds for NDMA Interventions' to help direct future contingency funding arrangements and priorities;
2. Establishment of formal guidance, requiring the establishment of dedicated DM contingency funds at both the national and provincial levels. Where funds may already exist then reviews of guidance for stakeholders, actors and even NGOs to apply for such funding in a timely manner for quicker utilization should be developed;
3. Greater coordinated thinking is required between the development of thresholds and formal classifications and funding arrangements embodied in a new integrated strategy;
4. Formal funding allocations to support DRR at the national level should be developed and provided for on an ongoing basis to highlight the shift to an enhanced DRR focus;
5. New planning initiatives should be implemented aimed at financing smoother transitions between response and recovery.



Bibliography

Bang, H., Miles, L. and Gordon, R., (2018) Enhancing local livelihoods resilience and food security in the face of frequent flooding in Africa: A disaster management perspective. *Journal of African Studies and Development*, 10 (7), 85-100.

Bang, H.N., Miles, L.S. and Gordon, R.D., (2019a) Disaster Risk Reduction in Cameroon: Are Contemporary Disaster Management Frameworks Accommodating the Sendai Framework Agenda 2030? *International Journal of Disaster Risk Science*, 10 (4), 462-477.

Bang, H., Miles, L. and Gordon, R., (2019b). Evaluating local vulnerability and organisational resilience to frequent flooding in Africa: the case of Northern Cameroon. *Foresight*, 21 (2), 266-284.

Freetown City Council (FCC) (2021) FCC Level 1 Disaster Response Standard Operating Procedures (FCC: Freetown).

Hempel, L., Kraff, B. D. and Pelzer, R. (2018) 'Dynamic Interdependence: Problematising Criticality Assessment in the Light of Cascading Effects', *International Journal of Disaster Risk Reduction*, 30: 257-268.

Lynch, P. (2009) *Single Point of Failure: The 10 Essential Laws of Supply Chain Risk Management* (Wiley: Oxford).

Miles, L. (2020) 'Sierra Leone Faces Coronavirus as Rainy Season Hits: Local Disaster Planning will be Key', *The Conversation*, 19 June 2020. Accessed at: <https://theconversation.com/sierra-leone-faces-coronavirus-as-rainy-season-hits-local-disaster-planning-will-be-key-139604>

Miles, L, Rogers, J. V., Travers, M., Bang, H., Martin, J. Miles, J, Patel, M. and Y. Zhang (2021) *FCC Facilitators' Guide to Disaster Management* (BUDMC: Bournemouth).

Miles, L. (2021) *BUDMC-AFRICAB Fire Incidents Evaluation Report* (BUDMC: Bournemouth).

National Disaster Management Agency (NDMA) (2021) *National Disaster Preparedness and Response Plan* (NDMA, Government of Sierra Leone: Freetown).

Thornhill, P. and Rogers, J. V. (2021) *After Action Review: Susan's Bay Fire* (World Food Programme (WFP) and Global Logistics Cluster: Freetown).

Wolf, L. (2004) 'Preventing Failure: The Value of Performing a Single Point of Failure Analysis for Critical Applications and Systems', *Information Systems Security*, 13: 1-54.

World Bank (2019) *Capacity Needs Assessment and Lessons Learned for Emergency Preparedness and Response* (Steadman Global Consulting Limited).

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