



DISASTER RISK REDUCTION IN WEST AFRICA AND THE SAHELIAN REGION: A REVIEW OF PROGRESS

An assessment of progress at the regional level and in Burkina Faso, Chad, Mali, Mauritania, Niger, Nigeria and Senegal against the 'African Union Programme of Action for the Implementation of the Sendai Framework for Disaster Risk Reduction 2015-2030 in Africa'.

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The assignment was conducted by K. Peters (Team Leader), B. Progida, F. Belval, L. Rossi, L. Royer, M. Oxley, C. Windey, O. Borodyna and K. Holloway. To expand, the research was conducted under the direction of the Team Leader, Katie Peters, Senior Research Fellow at ODI. Katie also led the research for Nigeria and at the regional and continental level. The country studies for Burkina Faso, Mauritania and Mali were led by Beatrice Progida, while the studies for Chad, Senegal and Niger were led by Dr Flaviane Belval. Research support was provided by Lyza Rossi (on Nigeria and entire assessment report), Lucie Royer (on regional and continental level), Marcus Oxley (on disaster recovery), Cassandra Windey (on Senior Expert Consultations and risk profiles), Olena Borodyna (on risk profiles), and Kerrie Holloway (on Niger).

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Executive summary

A snapshot of this report:

- This report assesses the progress made in Burkina Faso, Chad, Mali, Mauritania, Niger, Nigeria and Senegal, plus at the regional and continental level, against the implementation matrix for the African Union Programme of Action for the Implementation of the Sendai Framework for Disaster Risk Reduction 2015–2030 in Africa (AU PoA).
- The findings are informed by over 600 secondary literature documents, 84 interviews and 8 Senior Expert Consultations.
- More than 200 tailored recommendations are provided to support the African Union Commission (AUC), Member States, National Disaster Management Authorities (NDMAs) and regional- and country-level disaster risk reduction (DRR) stakeholders to accelerate progress against the AU PoA.

For all West African and Sahelian nations, the COVID-19 pandemic complicated already complex and cascading risk landscapes (UNDRR, 2019). Alongside changing global hazard, vulnerability and exposure profiles – not least because of the impacts of climate variability and change – many states are grappling with the direct and indirect impacts of the pandemic. This includes economic downturn, political contestation and changed patterns of violent conflict (Mosello et al., 2020; Quevedo et al., 2020; UN OCHA, 2020).

In recognition that disaster risks are undermining development progress and resulting in unnecessary loss of life, for decades risk managers across the continent have been striving to enhance risk management systems for biological as well as other hazards (UNDRR, 2020). Between 2010 and 2018, natural hazard-related disaster deaths totalled 47,543 in Africa, owing largely to hydrometeorological or climatological hazards (UNDRR, 2020); and this is likely to be an underestimation given that disaster impacts and deaths in contexts without sufficient administrative capacity go under-reported (Peters, 2019).

Long-standing recognition of and commitment to the need to address differentiated disaster risks led African nations to become signatories to the United Nation’s (UN) global framework on DRR, the Sendai Framework for Disaster Risk Reduction 2015–2030 (‘Sendai Framework’) (UNDRR, 2015). In turn, the AUC devised a continental plan to achieve the Sendai Framework goals and targets, known as the Programme of Action for the Implementation of the Sendai Framework for Disaster Risk Reduction 2015–2030 in Africa (the ‘AU PoA’) (AUC, 2017), accompanied by an Operational Plan (AUC, 2018). At the regional level, the Economic Community of West African States (ECOWAS) crafted regionally tailored disaster risk governance arrangements, strategies and plans to guide and encourage sub-continental progress on disaster resilience. And at the national level, governments

have been active in supporting NDMAs, Civil Protection and other entities to plan, deliver and monitor DRR outcomes.

Yet progress has been variable – risk-creation continues to set many states and societies on pathways of increased disaster risk (UNDRR, 2020), and understanding the scale, pace and trajectory of progress on disaster risk management (DRM) across West Africa and the Sahel is challenging. Progress against the Sendai Framework targets and the AU PoA additional targets have been documented within the AUC’s biennial report – most recently for the period 2015–2018 (AUC, 2020). We draw on those insights here, extend the analysis through to 2021, and focus directly on the AU PoA Priority Activities described under the implementation matrix (AUC, 2017). We ask whether the progress achieved is sufficient to meet the current and future disaster risk landscape across the West Africa and Sahel region, and what needs to be prioritised over the coming nine years up to 2030 in order to deliver on the commitments outlined within the AU PoA.

Special attention is given to disaster recovery, as one of the more neglected components of the DRM cycle (UNDP, 2019). Here, recovery refers to ‘the restoring or improving of livelihoods and health, as well as economic, physical, social, cultural and environmental assets, systems and activities, of a disaster affected community or society, aligning with the principles of sustainable development and “build back better”, to avoid or reduce future disaster risk’ (UNDRR, 2017, in UNDP, 2019: 5).

Such a focus helps to reveal significant gaps in the DRM cycle, namely the transition from response to recovery and through to risk-informed sustainable development (UNDP, 2019). Undeniably, progress on risk mitigation/reduction, preparedness and response are fundamental to reducing impacts and losses as well as future risk. However, exposed and vulnerable communities risk being trapped in negative cycles of cumulative risk and humanitarian crises if there isn’t equal emphasis on disaster recovery. Attention on disaster recovery also helps pave the way towards the more mature aspects of risk governance being advanced – namely, taking a systems-based approach to addressing systemic risk (UNDRR, 2020). Examples of the common themes on disaster recovery borne from the assessment include:

- strengthening the linkages between emergency response and recovery
- viewing post-disaster needs assessments (PNDAs) and disaster recovery frameworks (DRFs) as an entry point, but not the ‘end game’
- making recovery outcomes more explicit within conceptualisations of DRR
- making ‘resilience through recovery’ a core part of climate change action.

COVID-19 is the latest stressor adding pressure to already strained risk management systems. As with other hazards such as drought, flooding, heat waves and landslides, the pandemic is revealing the importance of having in place the mechanisms to address concurrent and cascading risks, as well as the need to transition towards systems that can deal with the increasing complexity of interactions between hazards and risks. In short, the pandemic has further complicated the challenge of delivering the AU PoA by the AUC, Regional Economic Communities (RECs) and their respective Member States. And yet substantial progress has been made across all four priorities of the Sendai Framework: understanding disaster risk; strengthening disaster risk governance to manage disaster risk; investing in DRR for resilience; and enhancing disaster preparedness for effective response and to ‘build back better’ in recovery, rehabilitation and reconstruction. We document that progress throughout this assessment report and point to the foundational work required at national, regional and continental level to help strengthen efforts towards disaster risk and recovery.

About this report

This report is the product of a commission by the AUC and the United Nations Development Programme (UNDP) under the Sahel Resilience Project (funded by the Government of Sweden) to conduct a comprehensive assessment of the status of the AU PoA implementation and post-disaster recovery in the Sahel region.

The assessment focuses on seven countries – Burkina Faso, Chad, Mali, Mauritania, Niger, Nigeria and Senegal, plus the regional and continental level. Mixed methods were employed, with quantitative and qualitative secondary data combined with primary data collected via key informant interviews and Senior Expert Consultations (technical discussions convened in each country plus the regional level specifically for this assessment).

The findings and recommendations are intended to provide the AUC, Member States, NDMAs and regional- and country-level DRR stakeholders with actionable ideas on how to enhance DRR outcomes at a national and regional level, and to move closer towards achieving the Priority Activities within the AU PoA.

Chapter 1: Introduction and reader's guide

Reader's guide:

- This section briefly situates this assessment in the context of progress on disaster risk management (DRM) in the West Africa and Sahel region.
- An overarching Reader's guide is provided to help navigate the report. In complement, 'Reader's guide' boxes are provided at the beginning of each chapter.
- Extracts from the African Union (AU) Programme of Action (PoA) implementation matrix are included for the continental, regional and national level – which provides the main framework for the assessment.
- A coding system was devised as a shorthand to indicate various parts of the AU PoA. This is described in the Reader's guide that follows – readers are strongly encouraged to become familiar with this.
- Acronyms are written in full the first time they are used within the chapter.
- Chapter bibliographies are included at the end of the report.

For countries across the globe, 2019 and 2020 have been years like no other. The COVID-19 pandemic has made evident the need for African nations to continue to invest in DRM systems for biological risks, just as the Ebola crisis had done in 2014–2016 (DuBois et al., 2015). For all West African and Sahelian nations, the pandemic has complicated already complex and cascading risk landscapes (UNDRR, 2019). Alongside changing global hazard, vulnerability and exposure profiles – not least because of the impacts of climate variability and change – many states are grappling with the direct and indirect impacts of the pandemic including economic downturn, political contestation and changed patterns of violent conflict (Mosello et al., 2020; Quevedo et al., 2020; UN OCHA, 2020).

Yet for many disaster risk reduction (DRR) experts across the African continent, the framing of the pandemic as a 'surprise' is misguided. Granted, the specific virus was largely unforeseen; however, risk managers across the continent have been striving to enhance risk management systems for biological as well as other hazards for decades, in recognition that disaster risks are undermining development progress and resulting in unnecessary loss of life (UNDRR, 2020). Between 2010 and 2018, natural hazard-related disaster deaths totalled 47,543 in Africa, owing largely to hydrometeorological or climatological hazards (UNDRR, 2020); and this is likely to be an underestimation given that disaster impacts and deaths in contexts without sufficient administrative capacity go under-reported (Peters, 2019). Patterns of disaster risk and impacts also have strong intersectional dimensions across the region (Chaplin et al., 2019), with women and children often living in conditions which increase their vulnerability to disasters. While the needs, vulnerabilities and capacities of women, men, girls and boys differ, it is not uncommon for pre-existing discriminations to be exacerbated in crisis situations; including, for example, gender-specific indirect impacts that arise in the aftermath of disasters such as sexual and gender-based violence. At the same time, recovery processes have the potential to transform unequal power relations that contribute to gender-differentiated vulnerabilities, if harnessed proactively.

Long-standing recognition of and commitment to the need to address differentiated disaster risks led African nations to become signatories to the United Nation's (UN) global framework on DRR, the

Sendai Framework for Disaster Risk Reduction 2015–2030 ('Sendai Framework') (UNDRR, 2015). Across the African continent, commitment to delivering national and regional contributions to the global ambitions set out within the Sendai Framework have been forthcoming. The African Union Commission (AUC), for example, devised a continental plan to achieve the Sendai Framework goals and targets, known as the Programme of Action for the Implementation of the Sendai Framework for Disaster Risk Reduction 2015–2030 in Africa (AU PoA) (AUC, 2017), accompanied by an Operational Plan (AUC, 2018). At the regional level, Regional Economic Communities (RECs) such as the Economic Community of West African States (ECOWAS), have crafted regionally tailored disaster risk governance arrangements, strategies and plans to guide and encourage sub-continental progress on disaster resilience. And at the national level, governments have been active in supporting National Disaster Management Authorities (NDMAs), Civil Protection and other entities, to plan, deliver and monitor DRR outcomes.

Yet progress has been variable and risk-creation – particularly in urban areas – continues to set many states and societies on pathways of increased disaster risk (UNDRR, 2020). Understanding the scale, pace and trajectory of progress on DRM across West Africa and the Sahel is challenging. We know that most governments across the region, for different reasons, have since the 1970s and 1980s focused their attention on emergency response (and sometimes preparedness). This is, in part, owing to many countries facing protracted conflict contexts and political upheaval and unrest, which has resulted in competing priorities wherein security and stability take precedence over action on natural hazard-related disasters (Peters, 2019). As a consequence, DRM is mostly handled by emergency agencies: Civil Protection in most countries, National Emergency Management Agencies (NEMA) in others. Alongside constrained national budgets, the dominance of response has side-lined the long-term and developmental aspects of DRR. While there have been many advances in understanding and responding to drought and food insecurity, for example, progress on a broader range of hazards and on ex-ante aspects of risk reduction has been variable. Indeed, the AUC found that '4.55% of Member States reported full implementation of their national DRR strategies. 77.27% of Member States reported partial implementation and 18.18% reported no implementation' (AUC, 2020: ix).

More recently, governments across West Africa and the Sahel have been strengthening disaster risk governance arrangements and focusing on the importance of linking different aspects of the risk management cycle – including the links to risk-informed development (Opitz-Stapleton et al., 2019). Supported by development partners, there is ample evidence that Sahelian countries have made progress in developing and revising disaster-related policy frameworks (national DRR strategies, plans of action), establishing and maintaining coordination mechanisms (National Platforms for DRR, early warning mechanisms) and enhancing capacity on different aspects of DRM (post-disaster needs assessment (PDNA) trainings, simulation exercises, etc.). All of these efforts aim to facilitate the implementation of the Sendai Framework and AU PoA and reduce disaster risk.

Progress against the Sendai Framework targets and AU PoA additional targets have been documented by the AU's biennial report – most recently for the period 2015–2018 (AUC, 2020). We draw on those insights here, but we extend the analysis through to 2021 and focus directly on the AU PoA Priority Activities described under the implementation matrix (AUC, 2017). We ask whether the progress achieved is sufficient to meet the current and future disaster risk landscape across the West Africa and Sahel region, and what needs to be prioritised over the coming nine years in order to deliver on the commitments outlined within the AU PoA. We explore these questions at the

regional and continental level and through seven focus countries: Burkina Faso, Chad, Mali, Mauritania, Niger, Nigeria and Senegal. Special attention is given to disaster recovery, as one of the more neglected components of the DRM cycle (UNDP, 2019). Recovery refers to ‘the restoring or improving of livelihoods and health, as well as economic, physical, social, cultural and environmental assets, systems and activities, of a disaster affected community or society, aligning with the principles of sustainable development and “build back better”, to avoid or reduce future disaster risk’ (UNDRR, 2017, in UNDP, 2019: 5).

A focus on disaster recovery helps to reveal significant gaps in the DRM cycle, namely the transition from response to recovery and through to risk-informed sustainable development (UNDP, 2019). While progress on risk mitigation/reduction, preparedness and response are fundamental to reducing impacts and losses as well as future risk, exposed and vulnerable communities risk being trapped in negative cycles of cumulative risk and humanitarian crises if there isn’t equal emphasis on disaster recovery. Attention on disaster recovery also helps pave the way towards the more mature aspects of risk governance being advanced, namely taking a systems-based approach to addressing systemic risk (UNDRR, 2020). Systemic risk is regarded as ‘risk that is endogenous to, or embedded in, a system that is not itself considered to be a risk and is therefore not generally tracked or managed’ (UNDRR, 2019: 45).

Across Western Africa and the Sahel socio-economic-technological and biological change has created new hazards and risks that are ‘non-linear, unexpected and uncertain’ (UNDRR, 2020: 4). The upshot is that risk management and the attainment of risk reduction outcomes requires grappling with the complexity of systems beyond those traditionally regarded as within the purview of risk managers. It requires dealing with the complex interactions of risk trajectories as they relate to the economic health of countries, patterns of risk-creation in growing urban centres, of conditions of violence, conflict and fragility, of conditions of poverty and livelihood security, of social and gender quality, and so on.

COVID-19 is the latest stressor adding pressure to already strained risk management systems. As with other hazards such as drought, flooding, heat waves and landslides, the pandemic is revealing the importance of having in place the mechanisms to address concurrent and cascading risks, as well as the need to transition towards systems that can deal with the increasing complexity of interactions between hazards and risks. In short, the pandemic has further complicated the challenge of delivering the AU PoA by the AU, RECs and Member States. And yet substantial progress has been made across all four priorities of the Sendai Framework: understanding disaster risk; strengthening disaster risk governance to manage disaster risk; investing in DRR for resilience; and enhancing disaster preparedness for effective response and to ‘build back better’ in recovery, rehabilitation and reconstruction. We document that progress throughout this assessment report.

[About this report](#)

This report is the product of a commission by the African Union Commission (AUC) and the United Nations Development Programme (UNDP) under the Sahel Resilience Project (funded by the Government of Sweden) to conduct a comprehensive assessment of the status of the AU PoA implementation and post-disaster recovery in the Sahel region. The assessment focuses on seven countries – Burkina Faso, Chad, Mali, Mauritania, Niger, Nigeria and Senegal, plus the regional and continental level. It was conducted between November 2020 and July 2021. The findings and recommendations are intended to provide the AU, Member States, NDMAs and regional- and country-level DRR stakeholders with actionable ideas on how to enhance DRR outcomes at a

national and regional level, and to move closer towards achieving the Priority Activities and Key Outputs within the AU PoA implementation matrix.

Reader's guide

Guidance is provided below to help the reader navigate the report. In complement, 'Reader's guide' boxes are provided at the beginning of each chapter.

AU PoA implementation matrix

The purpose of this assessment is to track progress against the Priority Activities outlined in the AU PoA implementation matrix (henceforth this report refers to the AU PoA implementation matrix simply as the 'AU PoA') (AUC, 2017). A full copy of the AU PoA Priority Activities is included in Annex 1. Also included within the AU PoA are sub-national level ambitions; these are not a focus of this assessment but are included in Annex 2 for reference.

The crib sheet below lists the AU PoA Priority Activities. It should be noted that the English and French version of the implementation matrix, while similar, do have notable differences (see Chapter 12 and Annex 3 for more details). This became apparent during the research and, as a result, means that governments are working towards slightly different Priority Activities and timelines depending on which iteration they are using. It should be noted that the research team based this assessment on the English AU PoA and created a French translation of this to ensure consistency across the analysis.

AU PoA Priority Activities crib sheet

Organised around the four priorities of the Sendai Framework, the crib sheet below contains summary versions of the Priority Activities, subdivided by scale (continental, regional and national).

Priority 1: Understanding disaster risk

Continental level: Establish standardised methodology, guidelines, procedures and tools based on scientific evidence and local and indigenous knowledge for risk assessment and analysis

Priority Activities

(P1 C-1) Establish guidelines for the surveillance of continental risks.

(P1 C-2) Develop risk surveillance capacity.

(P1 C-3) Map risk assessment and analysis approaches and methods.

(P1 C-4) Establish an interactive knowledge-sharing platform with library of risk assessment and analysis methodologies.

(P1 C-5) Assess risk assessment and surveillance gaps.

(P1 C-6) Develop an action plan for addressing gaps in disaster risk assessment and surveillance data.

(P1 C-7) Establish an African Science and Technology Group.

Regional level: Generate and disseminate risk knowledge and information for decision-making, including for cross-border and cross-cultural issues

Priority Activities

- (P1 R-1) Undertake studies on new and man-made risks.
- (P1 R-2) Generate risk information packages for different cultural, gender and age groups.
- (P1 R-3) Establish and strengthen an interactive knowledge-sharing platform on risk.
- (P1 R-4) Develop regional multi-hazard early warning systems (EWS).
- (P1 R-5) Develop global weather and climate data downscaling capacity for hydrometeorological hazards.
- (P1 R-6) Develop regional Disaster Risk Management Information and Communication Systems.
- (P1 R-7) Enhance protocols for sharing cross-border risk information.
- (P1 R-8) Support knowledge-sharing through online platforms of RECs.

National level: Institutionalise risk assessment and analysis for risk-informed decision-making

Priority Activities

- (P1 N1) Mobilise resources for profiling, monitoring and assessing disaster risks.
- (P1 N-2) Establish/strengthen technical structures for risk surveillance and assessment.
- (P1 N-3) Harmonise risk and warning definitions and concepts.
- (P1 N-4) Establish/strengthen DRR databases.
- (P1 N-5) Establish DRM information and communication systems.
- (P1 N-6) Operationalise post-disaster damage, loss and impact assessments.
- (P1 N-7) Integrate DRR in education and training.
- (P1 N-8) Strengthen technical and scientific capacity to promote innovation.
- (P1 N-9) Mobilise awareness-raising and advocacy initiatives.
- (P1 N-10) Integrate and safeguard local DRM knowledge.

Priority 2: Strengthening disaster risk governance to manage disaster risk

Continental level: Establish a dedicated structure for coordination of DRR in the AUC

Priority Activities

- (P2 C-1) Mainstream DRR across AUC departments.
- (P2 C-2) Establish a DRR Coordination Unit within the AUC.
- (P2 C-3) Map roles, functions and mandates of regional DRR stakeholders.
- (P2 C-4) Convene biennial Africa Regional Platforms for DRR.
- (P2 C-5) Implement programmes to strengthen DRR capacity of regional bodies, Member States and other stakeholders.

- (P2 C-6) Develop guidance to align national and regional DRR programmes to the Sendai Framework.
- (P2 C-7) Establish regional monitoring mechanisms to track Member State progress on the Sendai Framework and AU PoA.
- (P2 C-8) Implement a programme to propagate the Africa Regional Strategy for Disaster Risk Reduction (ARSDRR) and AU PoA.
- (P2 C-9) Establish the Africa Youth Advisory Board.

Regional level: Set up mechanisms for DRR coordination and exchange of DRR/DRM best practices, lessons learnt and experiences among Member States

Priority Activities

- (P2 R-1) Develop a common approach to address regional and transboundary disaster risks.
- (P2 R-2) Sustain structures and mechanisms for coordinating DRR.
- (P2 R-3) Strengthen regional risk management information exchange mechanisms.
- (P2 R-4) AUC to strengthen inter-REC exchange of experiences and lessons learnt.
- (P2 R-5) Develop harmonised mechanisms to identify ecosystems critical for transboundary DRR and modalities for their protection.

National level: Formulate, improve and sustain policies, strategies, plans and legal frameworks for DRR and integrate them into sustainable development strategies

Priority Activities

- (P2 N-1) Formulate gender-responsive DRR policies and plans.
- (P2 N-2) Operationalise institutional frameworks.
- (P2 N-3) Create/reinforce multi-stakeholder DRR platforms.
- (P2 N-4) Formulate/reinforce the legal and regulatory environment for DRR.
- (P2 N-5) Enhance awareness and compliance of public regulation measures on DRR.
- (P2 N-6) Align climate and DRR coordination mechanisms.
- (P2 N-7) Facilitate the implementation of the Sendai Framework through practical tools.
- (P2 N-8) Develop national mechanisms to protect ecosystems critical for DRR.

Priority 3: Investing in DRR for resilience

Continental level: Establish and strengthen cooperation, collaboration and coordination among governments, inter-governmental organisations and partners, including the private sector, and enhance coherence and integration of development frameworks to induce increased investment in DRR, including through financing of DRR by response funds

Priority Activities

- (P3 C-1) Develop and establish a continental DRR funding mechanism.
- (P3 C-2) Integrate DRR within AU frameworks, plans, policies and projects.
- (P3 C-3) Develop guidance on the linkages between DRR and regional development frameworks.
- (P3 C-4) Enhance investment in disaster risk financing, transfer, insurance and risk-sharing and retention mechanisms.

Regional level: Enhance coherence in sustainable development and DRR in regional policies and plans and strengthen regional cooperation and mechanisms to protect development gains and enhance resource mobilisation and investment in DRR

Priority Activities

- (P3 R-1) Align DRR with REC development frameworks.
- (P3 R-2) Develop guidance on linking DRR and REC development frameworks at national and sub-national/local levels.
- (P3 R-3) Promote public–private partnerships for disaster risk financing, transfer and insurance.
- (P3 R-4) Develop regional cooperation to enhance disaster-resilient health infrastructure, public health systems and management of transboundary public health risks.

National level: Establish, and allocate adequate resources for DRR investment plans and create an enabling environment to induce increased investment in DRR, including through integrating DRR measures in fiscal and financial instruments and optimising contribution of response funds to DRR

Priority Activities

- (P3 N-1) Design/operationalise national DRR investment plans.
- (P3 N-2) Develop/strengthen national disaster risk financing mechanisms.
- (P3 N-3) Operationalise guidelines for mainstreaming DRR across sectors.
- (P3 N-4) Develop/implement development policies, plans and programmes.
- (P3 N-5) Develop DRM guidelines on safety of schools, health facilities and critical infrastructure.
- (P3 N-6) Promote and fund community-based DRR.
- (P3 N-7) Strengthen DRR knowledge management and practice.

Priority 4: Enhancing disaster preparedness for effective response and to ‘build back better’ in recovery, rehabilitation and reconstruction

Continental level: Effectively coordinate preparedness and integrate preparedness measures for effective response

Priority Activities

- (P4 C-1) Support disaster preparedness and response interventions.

- (P4 C-2) Strengthen continental and regional research, innovation and scientific solutions for disaster preparedness, response and recovery which incorporate traditional knowledge.
- (P4 C-3) Establish a dialogue forum for exchange of best practice on disaster preparedness, response and recovery.
- (P4 C-4) Support the operationalisation of post-disaster response, recovery and reconstruction guidelines in fragile and conflict settings.

Regional level: Establish and strengthen multi-hazard EWS and regional mechanisms for early action and response

Priority Activities

- (P4 R-1) Develop measures to manage cross-broader disasters.
- (P4 R-2) Establish regional multi-hazard EWS and support harmonisation of national EWS.
- (P4 R-3) Develop regional response and recovery mechanisms for transboundary disasters.
- (P4 R-4) Support the implementation of joint disaster preparedness and response interventions among DRR stakeholders.
- (P4 R-5) Facilitate partnerships to strengthen national post-disaster response management capacities.
- (P4 R-6) Enhance multi-hazard EWS capacity.
- (P4 R-7) Support integrated approaches which incorporate DRR in response practice at the regional and national level.
- (P4 R-8) Support regional maritime disaster management capacity including regional search and rescue.
- (P4 R-9) Support improved biological hazard risk management and reduction.

National level: Establish and strengthen emergency preparedness, response and recovery support and coordination mechanisms, capacities and facilities, including coordination centres

Priority Activities

- (P4 N-1) Strengthen multi-hazard EWS.
- (P4 N-2) Develop national preparedness and response strategies incorporating gender and 'build back better'.
- (P4 N-3) Create/strengthen national preparedness and response institutions.
- (P4 N-4) Develop comprehensive preparedness and response plans.
- (P4 N-5) Support response training and simulation exercises.
- (P4 N-6) Facilitate partnerships to mobilise humanitarian funding.

Learn our coding system

A **coding system** has been devised to indicate which Priority Activity of the AU PoA (AUC, 2017) is being referred to, as follows:

The coding system	Component parts	An illustration
The AU PoA is organised around the four Priorities of the Sendai Framework. The Priority is indicated with a 'P' followed by the corresponding number between 1 and 4.	<ul style="list-style-type: none"> • (P1) Priority 1: Understanding disaster risk • (P2) Priority 2: Strengthening disaster risk governance to manage disaster risk • (P3) Priority 3: Investing in DRR for resilience • (P4) Priority 4: Enhancing disaster preparedness for effective response and to 'build back better' in recovery, rehabilitation and reconstruction 	(P4 N-3) P4 refers to Priority 4 of the Sendai Framework
The geographical scale is then indicated, using the first letter of the scale.	<ul style="list-style-type: none"> • 'C' Continental • 'R' Regional • 'N' National • 'SN' Sub-National 	(P4 N-3) N refers to the national scale.
The Priority Activity number is then indicated. The number of Priority Activities within each scale varies.	<ul style="list-style-type: none"> • 1 • 2 • 3 • 4 • ... 	(P4 N-3) 3 refers to Priority Activity number 3.

Structure of the chapters

Country and regional–continental chapters

Each country/regional–continental chapter follows a similar structure. It is important for readers to understand the structure of the country/regional–continental chapters, to understand why the content is organised as it is.

Country/regional–continental chapter structure	Annotations to guide the reader
Reader's guide: each chapter begins with a reader's guide to complement the details included in this sub-section of the report.	
General overview: the general overview provides readers with a general introduction to the socio-economic-developmental status of the country/region, including basic statistics on poverty trends, crisis conditions and Human Development Report indicators.	
Risk profile: an overview of the risk profile of the country/region is then provided. This follows the	It is important to note that societal hazards are a relatively new classification, referring to hazards

<p>International Science Council (ISC) and United Nations Office for Disaster Risk Reduction (UNDRR) hazard definition and classifications (ISC and UNDRR, 2020), and so includes: hydrometeorological, environmental, biological and societal hazards. This is not intended to be comprehensive, but to give an indication of the hazard, risk and disaster context of the country/region which then helps to put the progress on DRR/DRM into context.</p>	<p>which are ‘brought about entirely or predominantly by human activities and choices, and have the potential to endanger exposed populations and environments. They are derived from socio-political, economic activity, cultural activity and human mobility and the use of technology, but also of societal behaviour – either intentional or unintentional. Societal hazards also have the potential to result in disasters and cause significant numbers of deaths, illness, injury, disability and other health effects, disruption to societal systems and services, and social, economic and environmental impacts’ (ISC and UNDRR, 2020: 30). In the context of this report, we include shocks and stresses such as violence, conflict, technological hazards and others under this category.</p>
<p>Priority 1: Understanding disaster risk</p> <p>Progress and achievements: a summary of progress and the achievements made since the Sendai Framework commenced in 2015 is provided. The content was selected on the basis that it reflects on the Priority Activities for the priority area in question. To explain, for Priority 1, for example, the Priority Activities at the national level (as described in the AU PoA – see crib sheet for ease) include the following topics: mobilising resources for assessing disaster risks; establishing technical structure for risk surveillance; harmonising risk definitions; strengthening DRR databases; establishing DRM communication systems; operationalising post-disaster assessments; integrating DRR into education; strengthening scientific capacity; mobilising advocacy initiatives; and integrating local DRM knowledge.</p>	<p>The summary of progress reflects the data, information and experiences documented as part of this assessment process, but it is not exhaustive (see Chapter 2 Methodology for more details, and Annex 4 for limitations of the study).</p> <p>The organising structure of the text is determined by the Priority Activities. For example, details about the progress a country has made on integrating DRR into the education system are included in Priority 1, because this reflects the Priority Activity (e.g., P1 N-7). Moreover, the themes and ambitions of the Priority Activities provide a framework for the selection of material, meaning that this is not a comprehensive summary of all progress on Priority 1 of the Sendai Framework, but focused on the AU PoA.</p>
<p>Observations and recommendations</p> <p>Challenges and barriers: a summary of the barriers, challenges and impediments to making progress specifically on the Priority Activities is provided. The content of this section once again reflects the themes of the Priority Activities.</p>	

<p>Recommendations: the recommendations are designed to help support progress on the Priority Activities. Not every Priority Activity will have a recommendation; we focus on those that seem most practical and attainable in light of the political, financial and technical capacity and conditions of the country/region.</p>	
<p>Priority 2: Strengthening disaster risk governance to manage disaster risk: as above (noting that the content of the Priority Activities differs for Priority 2).</p>	
<p>Priority 3: Investing in DRR for resilience: as above (noting that the content of the Priority Activities differs for Priority 3).</p>	
<p>Priority 4: Enhancing disaster preparedness for effective response and to ‘build back better’ in recovery, rehabilitation and reconstruction: as above (noting that the content of the Priority Activities differs for Priority 4).</p>	

Disaster recovery chapter

This assessment also contains a chapter specifically focused on disaster recovery (Chapter 11). This chapter reports on **progress and achievements** in disaster recovery since 2015 for the seven countries plus West Africa and the Sahelian at the regional level. For each country and at the regional level, the **challenges and barriers** to progress are also discussed. This is followed by **recommendations** tailored to each country and at the regional level, organised around core themes borne from the findings.

As disaster recovery is nascent across the region, the research did not use a predetermined disaster recovery framework to assess progress but instead sought to document anything that could be of relevance. This includes, for example, disaster risk governance for disaster recovery; the integration of recovery considerations into sectoral and institutional mandates, training, skills and capacities on disaster recovery; and tools and methods used. Furthermore, as disaster recovery is not systematically included in the AU PoA, the Priority Activities did not provide a useful framework for analysis. Instead, UNDP’s previous work on disaster recovery proved foundational for conceptualising the topic (UNDP, 2016; UNDP, 2019).

Following the country-level analysis of disaster recovery, a substantive **reflections** section is provided, which presents findings that are organised around the key themes drawn from across the seven countries.

Chapter 11 concludes with **closing reflections** and a set of **common themes** to advance in order to accelerate action and positive outcomes on disaster recovery across the region.

Further guidance for readers

Readers should also note the following:

- **Baseline:** A 2015 baseline was created as part of the analysis process (see Chapter 2: Methodology for more details), which then allowed the research team to assess the progress made through to 2021. For brevity, the baseline is not provided in this report although insights from the baseline are mentioned throughout the analysis to illustrate the progress made since 2015.
- **Translations:** Given that our seven country cases employ French and English, it has been necessary to translate key terms, agency names and titles of documents etc. Official translations are used where they are available. Where translations are not available or are disputed, an approximate translation is used.
- **Acronyms:** Acronyms are written in full the first time they are used within each chapter. Acronyms used within the country chapters can refer to either the English or French terms, depending on which are more commonly used in-country. It can sometimes be the case that the same acronym means different things in different country contexts, thus readers are advised to refer to the full term provided on first use within each chapter.
- **References:** All material cited includes a source, to the extent possible. This may be in the form of an interviewee, Senior Expert Consultation comment, email exchange, or published or unpublished document. A full bibliography is provided at the end of the report, organised by chapter. Each bibliography for the country/regional–continental analysis is further divided into the general overview and the priority areas. Where available, urls are given for materials that are in the public domain.

Chapter 2: Methodology

Reader's guide:

- This section details the organising structure for the research as well as the primary and secondary data collection. Details of the means of analysis are also provided.
- Senior Expert Consultations were convened as part of the review process for this report, alongside a formal peer review process.
- The limitation of the research process, including those related to the pandemic, are described. Additional annotations on methodological limitations by country are given in Annex 4.
- Acronyms are written in full the first time they are used within the chapter.
- Chapter bibliographies are included at the end of the report.

Introduction

The research team used a common approach to data collection, analysis, write-up and peer review, providing a degree of standardisation across each of the seven country cases plus the regional-/continental-level analysis. Mixed methods were employed, with quantitative and qualitative secondary data combined with primary data collected via key informant interviews and the Senior Expert Consultations (these were invitation-only technical discussions that brought together selected experts to discuss the findings, one per country and at the regional–continental level). The draft research reports underwent an extensive peer review process prior to sign-off by the commissioning agencies, the United Nations Development Programme (UNDP) and the African Union (AU).

Under the direction of the Team Leader (Katie Peters), each country chapter was developed by a Lead Researcher, with support from a wider group of researchers as required:

- Regional- and continental-level: Katie Peters and Lucie Royer
- Country cases:
 - Burkina Faso: Beatrice Progida
 - Chad: Flaviane Belval
 - Mali: Beatrice Progida
 - Mauritania: Beatrice Progida
 - Niger: Flaviane Belval with Kerrie Holloway
 - Nigeria: Katie Peters and Lyza Rossi
 - Senegal: Flaviane Belval
- Disaster recovery chapter: Katie Peters and Marcus Oxley

Each of the methodological steps is described further below, along with the limitations of the assessment process.

Organising structure for the research

This report assesses the progress made on the Sendai Framework and AU Programme of Action (PoA). The AU PoA's implementation matrix (see Annex 1) details Priority Activities, timeframes, outputs and accountabilities for each of the four priority areas of the Sendai Framework, divided by

continental, regional, national and sub-national commitments. This study focuses on the Priority Activities detailed within the AU PoA implementation matrix (referred to henceforth as the 'AU PoA' for brevity). The AU PoA Priority Activities were used as the main organising structure for data collection, analysis and the write-up of findings for the country and regional–continental level. For each country, and for the regional–continental level, the research team created a 'Tracker' (a matrix detailing evidence of progress against each of the Priority Activities), to catalogue primary and secondary evidence against the AU PoA. The Trackers for each of the seven countries plus the regional–continental level are internal, unpublished documents.

Secondary data collection, cataloguing and analysis

A desk review of secondary literature was conducted for all seven countries plus the regional–continental level, and evidence organised within the Tracker.

First, the team created a baseline. The AUC biennial report 2015–2018 (AUC, 2020) was used as a primary input, particularly for the regional-level analysis. At the national-level, where a Capacity for Disaster Reduction Initiative (CADRI) report was available for 2014/2015, this data was used as a baseline from which to compare progress against the Sendai Framework and AU PoA for the period 2015–2021. The Sendai Framework commenced in 2015, so this year was used as the baseline and start date for progress tracking. The CADRI assessments are among the most relevant, comprehensive assessments of disaster risk reduction (DRR) capacities for the countries under review. For countries where there was no CADRI report or the assessment is deemed dated (e.g., prior to 2010), the researchers sought to create a baseline using other sources, such as Hyogo Framework for Action evaluations and progress reports, and Sendai Framework readiness reviews. Owing to space constraints, the baseline is not provided in this report but insights from the baseline are mentioned where relevant to demonstrate the progress made since 2015.

Second, the team sourced evidence to complete the Tracker for the period 2015–2020. The complete list of evidence used in the assessment can be found in the bibliography. The data sources include:

- government laws, policies, DRR strategies and related documents
- a mining of PreventionWeb country profiles for all relevant documents, including Sendai Framework progress reports, United Nations (UN) plans and progress reports, (international) non-governmental organisation (I/NGO) project documents
- country sector-relevant strategies and progress reports (e.g., health, urban planning, education)
- humanitarian situation reports for specific disaster events and disaster recovery processes.

Based on the desk review, researchers identified data gaps, areas to be expanded and signs of progress against the AU PoA, which were further explored during interviews with key informants and through Senior Expert Consultations (see below). Whenever discrepancies in the evidence base were found, researchers sought to triangulate information with key national stakeholders through interviews and written correspondence.

Primary data collection, transcribing and analysis

The selection of key informants was conducted using a non-probability snowball sampling method based on a weighting of the interviewees' technical credibility and knowledge of the Sendai

Framework and AU PoA implementation at a country and/or regional level. Priority was given to those individuals who offered potential to help fill knowledge and evidence gaps exposed during the secondary desk review.

The interviews were approximately 45–60 minutes in length, convened in French or English (according to the interviewee’s preference), and followed a pre-determined research protocol.

Although the interviews were necessarily selective owing to time limitations, to capture the multi-sectoral nature of DRR and disaster recovery, the research team sought to interview a range of stakeholders, including: AU, Economic Community of West African States (ECOWAS), National Disaster Management Authorities (NDMAs) and/or Civil Protection, United Nations Office for Disaster Risk Reduction (UNDRR) National Focal Points, Meteorological Services, and senior staff from key government departments including the Ministry of Health, Ministry of Agriculture, Ministry of Environment and Ministry of Social Affairs (or equivalents according to country). In complement, the team sought interviews with UNDP, the International Federation of the Red Cross Red Crescent Society, and relevant banks and donors.

Details of the interviewees, per country and at the regional–continental level are provided in Annex 4.

Senior Expert Consultations

Eight Senior Expert Consultations were convened, one per country, plus one for the regional–continental level. The consultations involved senior technical experts invited on the basis that they would be well placed to discuss the initial findings from the research (provided in advance of the Consultation through a summary report), to verify the findings and to brainstorm recommendations for future priorities for action.

Held virtually on Zoom for a duration of two hours, the consultations took a common format, beginning with the lead researcher providing a short presentation of the findings across each of the four priority areas of the AU PoA, followed by a specific discussion on disaster recovery. Attendees were invited to share their reflections on the findings, any new insights not captured in the summary report, and to propose ideas and priority actions for DRR and disaster recovery.

More than 150 individuals were invited to the consultations convened in March 2021; levels of attendance varied.

Country	Date of Senior Expert Consultation
Burkina Faso	18 March 2021
Chad	31 March 2021
Mali	10 March 2021
Mauritania	15 March 2021
Niger	09 March 2021
Nigeria	08 March 2021
Senegal	11 March 2021

Region	Date of Senior Expert Consultation
West Africa and the Sahel	23 March 2021

Analysis and review

Means of analysis

Insights from the qualitative and quantitative secondary data review, key informant interviews and Senior Expert Consultations were triangulated by ensuring data, information and evidence relevant to each aspect in the Tracker were collated in the relevant column/row. This allowed a direct comparison between the data collected from each source. Where there were discrepancies in the information, the team endeavoured to understand why this was the case by:

- double checking the sources and seeking further insights through email exchange and additional interviews
- making a judgement on the relative accuracy, credibility and robustness of the different data sources to weigh them against one another
- discussing discrepancies in the research team meetings to understand whether there were similar experiences across other country findings.

A special focus on disaster recovery

Special emphasis was placed on disaster recovery across the region, with supplementary data collection including:

- **dedicated space within the Senior Expert Consultations:** disaster recovery was reported as a distinct section in the summary reports that informed the consultations, and dedicated space was provided to discuss progress and opportunities on disaster recovery in the consultations
- **additional secondary material:** documents, reports and policies were collated on disaster recovery as part of the seven country research processes and the regional–continental level. In addition, further documents were identified through a specific search for secondary material, including through the UNDP regional team
- **targeted primary interviews:** additional interviews with geographic and thematic disaster recovery specialists from UNDP were conducted in June 2021 to bolster the findings from the country- and regional–continental research.

Peer review process

An external peer review process was undertaken. The full draft country and regional–continental reports were shared with the AUC and UNDP and with all key stakeholders identified previously (i.e., all individuals invited to the Senior Expert Consultations, regardless of whether they attended the consultations). Feedback was invited on all aspects of the draft report, including structure, presentation of material, quality and robustness of analysis, and viability of the recommendations.

Feedback was received on all seven country reports and the regional–continental report, including, but not limited to, the AU, UNDP, the Organisation for Economic Cooperation and Development (OECD), UN agencies such as the United Nations Children’s Fund (UNICEF), and government

representatives – for example, in Nigeria feedback was received from the National Emergency Management Agency (NEMA) and the Ministry of Environment.

Limitations of the research

A number of limitations of the assessment were identified prior to commencement, and new limitations emerged during the research process – not least due to the COVID-19 pandemic. These are summarised below, along with any mitigating actions taken. Methodological limitations by country are further discussed in Annex 4.

Research parameters

- **Focus on the national level:** prior to the commencement of the research, it was agreed that the assessment would only be able to focus on the national level, with limited coverage of the sub-national level (and continental level), except for selected illustrations (for example, when reflecting on specific disaster events and recovery processes). It was also not possible to extend the invitation to interview or join the Senior Expert Consultation beyond the key stakeholders – who typically operate at the national level. It is recommended that a thorough dissemination and dialogue process is convened in-country and at the regional level post-pandemic to discuss the findings, recommendations and ways forward.
- **Challenges in establishing a 2015 baseline:** establishing a baseline proved challenging where CADRI assessments had not been conducted in or around 2015. For example, in Niger, with the support of UNDP and the Early Warning System (*Système Alerte Précoce, SAP*) Coordinator, the researchers sought to access existing data; however, the lack of archived documentation on the historical policy commitments, projects and plans presented a significant challenge to establishing the baseline and the progress since 2015. Hyogo Framework progress reports were sometimes available across the seven countries to inform the baseline, but as self-reported assessments of progress their quality and validity varies greatly. In the future, this report and the unpublished Trackers can be used as a form of baseline.
- **Time parameters:** the depth and coverage of DRR/DRM activities included in the report should be considered in the context of the time parameters of the assessment. The terms of reference for the assignment stipulated a research team of three individuals (two DRR experts and a disaster recovery expert), allocated up to 80 days each. This equates to each country case receiving around 26 days (including methodological design, secondary and primary research, convening of the Senior Expert Consultation, report write-up and peer review process). Additional time was subsequently allocated to extend the peer review process, allowing a broader constituency of actors to provide feedback alongside multiple rounds of review. Readers of the report are asked to be cognisant of this parameter.

Practical constraints

- **Remote interviews and Senior Expert Consultations:** due to the COVID-19 pandemic, the original intention to undertake interviews and the Senior Expert Consultation in-person, in-country, had to be replaced by virtual methods using Zoom, Skype, Teams and/or mobile phone. This significantly extended the time required to establish contact and schedule interviews and, in many cases, numerous attempts had to be made due to connectivity issues across the seven countries. It also meant some participants of the Senior Expert

Consultation were not able to hold connectivity for the full two-hour duration and some interviewees could not be reached owing to poor phone signal and lack of internet access.

- **Challenges in accessing key informants:** due to time limitations and the ongoing pandemic, interviews were conducted selectively, prioritising those individuals who the researchers felt offered most chance of addressing evidence gaps. However, accessing interviewees was a challenge – particularly where members of NDMA were responsible for pandemic response. The research team enlisted the support of the UNDP regional team and the AUC to access key stakeholders in-country, but in many instances – in Mauritania and Mali, for example – the team were unable to secure interviews despite repeated attempts over the course of several months. In Mauritania, for instance, accessing the national DRR Focal Point required several interventions of the AU, including a direct call to the Minister of Environment. Where it was not possible to speak to key stakeholders, the team sought to overcome this through triangulation of sources.
- **Lack of access to official and project documents:** in most country cases, a major challenge was accessing official documentation, with poor or non-existent government data management systems in place to archive records – as in Chad, for example. Across countries, access to project documents was particularly challenging, with few stored on PreventionWeb and many reports of project files not being transferred between staff when turnover is high. In some countries, this meant only current project documents were accessible (which were largely not mature enough to have impact or outcome data), while in others, such as Mali and Senegal, documents that could be accessed were dated (produced before the 2015 baseline and offering little insight into the progress since the commencement of the Sendai Framework). In other examples, core documents were not easily obtainable. In Nigeria, for instance, the research team was only able to access the recent National Disaster Risk Management Policy, adopted in 2019, upon request to NEMA; similarly, the 2017 Gender in Disaster Risk Management Policy draft was not publicly available, as approval is pending. The team sought to mitigate against this limitation through the extensive review process conducted.
- **Volume of documentation:** in contrast, in the case of the regional–continental assessment, the volume of documentation available was insurmountable. Given that Western Africa and the Sahel is an entire continental sub-region, and the timeframe of the assessment spanned six years (i.e., 2015 baseline through to 2021), it was not feasible to conduct a full review of progress. Due to the time and budget parameters of the consultancy, it was not feasible to undertake a comprehensive mapping of all reports, stakeholders, projects and actions across the region. The team were therefore necessarily selective, focusing on those actions, projects and developments that provided most promising insight into the progress made against the AU PoA.

Technical and thematic limitations

- **Discrepancies in the data:** it was not uncommon to find discrepancies in the information provided by interviewees, or even between different published sources. While every effort was made to secure the most accurate information available, there are clear discrepancies across the board – even, for example, about facts such as when a law came into effect, or whether a ministry participates in a DRR Platform. The research team made every effort to

address this through triangulation of data and further email exchanges with key stakeholders.

- **Peer review process:** given that the draft country and regional–continental reports were shared with over 150 individuals (all invitees to the Consultations), overall, the volume of feedback received was limited. Additional time for review (up to a month in some cases) was granted to any individual who requested this in an attempt to increase feedback.
- **Remaining information gaps:** information gaps were not uncommon. To fill these would require significant further research, which is beyond the scope of the study. This impacted the research team’s ability to decipher the full extent of progress, trends and opportunities for future action. Ideas for how to address these information gaps are outlined in the country and regional–continental-level recommendations. Common across the countries were gaps in evidence on the role of indigenous knowledge, the media, technological innovations and the private sector in achieving DRR outcomes.
- **Limited insight into disaster recovery:** despite every effort being made to place special emphasis on disaster recovery, limited progress on disaster recovery and limited technical capacity on disaster recovery across the seven countries severely hampered the research team’s ability to document changes since the 2015 baseline, or to identify opportunities for advancement of the theme. Every effort was made to bolster evidence on disaster recovery through personal contacts and additional time was dedicated to secondary and primary data collection.

Force majeure

- **COVID-19:** the primary data collection design originally revolved around visits to each of the countries to work collaboratively with the key DRR stakeholders, conduct interviews and collect documents in person, and to convene the Senior Expert Consultations in person. As the pandemic progressed, it became evident that this would not be feasible. The pandemic also severely impacted the ability of key stakeholders to engage – particularly in contexts where the NDMA or Civil Protection were responsible for the pandemic response. The research team was also affected by COVID-19, both directly (including one team member contracting COVID-19 during the research) and indirectly through government measures in their countries of residence that impacted working practices. Consequently, the timeframe for the research had to be extended.
- **Eruptions of violent conflict:** across the seven countries there were episodes of violent protests in response to government handling of the pandemic, which impacted informants’ ability to access their offices and therefore access documents to share and/or participate in interviews. This was the case in Burkina Faso, Mali, Niger and Senegal, for example (de Georgio, 2020). In other countries, such as Mali, political unrest was more severe. Political turmoil and the second military coup in Mali in the space of a year resulted in the AUC and ECOWAS suspending Mali’s membership in early June 2021 (Reuters, 2021). This presented considerable challenges to accessing key informants such as senior officials, UN staff and NGO representatives, as well as crafting appropriate recommendations.

Chapter 3: Burkina Faso

Reader's guide:

- This section briefly describes the risk profile of Burkina Faso before summarising the progress and achievements made, and barriers and constraints, for each of the four priority areas of the African Union Programme of Action (AU PoA) (which mirror the four areas of the Sendai Framework).
- For each of the four priority areas, the summary of progress, challenges and barriers *specifically reflect* the Priority Activities from the AU PoA implementation matrix (see Chapter 1).
- Detailed recommendations are provided for each priority area, linked to the specific AU PoA Priority Activities. The coding system described in Chapter 1 is employed to help readers connect the recommendations to the AU PoA Priority Activities.
- Although specific national recommendations are provided, readers are encouraged to adapt the recommendations to other countries, as appropriate.
- Further details of Burkina Faso's progress on disaster recovery are included in Chapter 11.
- Details of the methodology (primary and secondary evidence collection and analysis) that informed this chapter can be found in Chapter 1 and Annex 4.
- Acronyms are written in full the first time they are used within the chapter.
- Chapter bibliographies are included at the end of the report, which are further separated into the general overview for each country followed by the priority areas.

General overview

Burkina Faso is a low-income country in West Africa with a population of just over 20 million people (World Bank, 2021a). Burkina Faso is divided into 13 administrative regions, each administered by a governor. These regions are divided into 45 provinces, headed by high commissioners, and into 370 departments, headed by the prefects (Aouaga, 2015).

In 2019, the country achieved economic growth of around 6% with average incomes reaching US\$790 (World Bank, 2021a; 2021b). Around 40% of the population lives below the poverty line; however, the overwhelming majority (84%) of people live in multidimensional poverty, suggesting that those living above the poverty line may nonetheless experience privations in health, education or general living standards (UNDP, 2020). Agriculture is important: cotton is the main cash crop, but millet, sorghum, maize and other crops are also cultivated (UNDP, 2020a; GFDRR, 2011).

In 2019, Burkina Faso ranked 182 countries on the Human Development Index 2020 (UNDP, 2020a). Despite increasing life expectancy and expected years of schooling, the country faces many development challenges. Child malnutrition and stunting are high at 25% for children under the age of five (UNDP, 2020a). Youth unemployment rates are higher than average, with 23% not in employment or education (UNDP, 2020a). Like some other countries in the region, Burkina Faso struggles to provide equal outcomes for men and women. Women's lack of access to reproductive health and education opportunities, poor political representation and labour market participation mean that the country ranks towards the bottom of the Gender Inequality Index – 147 of 162 (UNDP, 2020b).

Security and humanitarian crises have been projected to adversely affect economic growth, which was expected to fall to around 5.8% in 2020 (World Bank, 2020). Relatively few households have benefited from social protection provided by local non-governmental organisations (NGOs) and the government, and those that have, mostly received benefits in the form of food. Growing numbers of Burkinabe experience food insecurity – increasing from 1.6 million people between January and May 2020 to 3.28 million between June and August 2020 (ACAPS, 2020a). Worsening food insecurity is a result of a multitude of factors: the lean season, loss of purchasing power, contraction of agro-pastoral activities and food market disruption, insecurity and displacement as a result of COVID-19 restrictions (ACAPS, 2020a). While the economic impact of COVID-19 on the economy is yet to be assessed, climate related events, the continued spread of COVID-19 and global recession may all impact economic growth (World Bank, 2020).

Risk profile

Burkina Faso is exposed to multiple hydrometeorological, environmental, biological and societal hazards. The country ranks 34th on the World Risk Index, reflecting its high exposure to natural hazards, such as floods and droughts, combined with a lack of coping and adaptive capacities (Behlert et al., 2020). Climate variability is having a substantial effect on the country; in the longer term, climate change is likely to have significant yet differentiated impacts across areas and seasons (World Bank, 2021c).

While Burkina Faso is particularly at risk of droughts and floods, the country is also affected by environmental hazards, including desertification, land degradation, windstorms and insect infestations. These hazards are often interlinked; for example, windstorms exacerbate locust infestations by spreading the insects to more communities.

Burkina Faso is also at risk of numerous biological hazards, such as meningitis, measles, malaria and cholera, which are exacerbated by poor sanitation, heavy rainfall and flooding. Over the last year, COVID-19 has affected economic activities, such as farming, and has increased the already high levels of food insecurity in the country (ACAPS, 2020b).

Burkina Faso is at high risk of humanitarian crisis and disasters, according to the INFORM risk index (UN OCHA, 2020). The current security crisis originated in 2015 and deteriorated in 2018, leading to internal displacement of 1 million people (IOM, 2021). Ongoing violence disrupts the delivery of health and education services and contributes to persistent development challenges in the country (ACAPS, 2020a).

Hydrometeorological hazard-related disasters

Burkina Faso is exposed and vulnerable to droughts, floods, heatwaves, windstorms and sandstorms, among other hydrometeorological hazards. Climate variability already significantly affects food security in the country. Climate change will have severe impacts, with a projected temperature increase of up to 4°C by 2080–2099 (significantly higher than the global average) and an increasing risk of extreme weather incidents. The predicted temperature rise will be spatially and seasonally differentiated, with higher rates of increase in the north of the country and during the wet season.

Under current estimations of climate change impacts where the level of greenhouse gas emissions continues rising through the century, the country is projected to experience a 3–4°C increase in temperature by 2080–2099 (World Bank, 2021c). This is higher than the global average and will be felt more in the north of the country at a higher rate than in the south (World Bank, 2021c). For precipitation, there is a high level of uncertainty, given the lack of data, particularly for Burkina Faso

and the wider West African region (World Bank, 2021c). High temperatures have become a regular occurrence, with average highs reaching 35°C, especially in the north of the country, and may lead to an increase in heat-related mortality.

The number of both extremely dry and wet areas is expected to increase, with semi-arid areas becoming more arid. There will be less certainty about the impact of climate on vegetation. While rising temperatures may improve cotton yields, erratic rainfall means that the crop will remain vulnerable (GFDRR, 2011).

Since 2010, Burkina Faso has experienced several droughts, each affecting millions of people. A 2011 drought that affected nearly 3 million people was followed by another in 2014 affecting 4 million people, while a recent drought in 2020 affected 3 million people (EM-DAT, n.d.). Land degradation and higher herd mortality are just some of the impacts that droughts can have on agro-pastoral activities (GFDRR, 2011). Droughts likely exacerbate multidimensional poverty by increasing food prices, exhausting water reserves and reducing or eliminating crop yields (GFDRR, 2011). Along with droughts, the country also experiences floods, which are more frequent but affect fewer people (EM-DAT, n.d.). Floods are often linked to '(i) unplanned settlements in high-risk areas; (ii) improper drainage; and (iii) poorly designed infrastructure' (GFDRR, 2016).

Environmental hazard-related disasters

Burkina Faso is at risk of desertification and land degradation. Highly variable rainfall, which supplies most of the country's water needs, contributes to water shortages, low yields, famine and desertification, and leads to migration from drier areas in the Central Plateau to other regions in the east and west of the country (GFDRR, 2011). This, in turn, contributes to overcrowding and environmental degradation in host areas. Land degradation in the country is also linked to human pressures and climate variability. Hydrometeorological, environmental and biological hazards also intersect. For example, the Harmattan winds bring hot, dry air and sandstorms over the central Mossi Plateau. During locust outbreaks, high winds can further spread locusts across communities, exacerbating the outbreaks (GFDRR, 2011).

Biological hazard-related disasters

Like other countries in West Africa, Burkina Faso is highly susceptible to diseases such as cholera, malaria, measles and meningitis. Poor urban sanitation contributes to disease outbreaks. Heavy rainfall and flooding may also lead to increases in diarrheal diseases. In 2019, the country accounted for 4% of over 400,000 deaths attributed to malaria worldwide (WHO, 2020). Much of the population requires preventive chemotherapy for neglected tropical diseases, including lymphatic filariasis (commonly known as elephantiasis) and schistosomiasis (WHO, 2008).

As of 25 August 2021, Burkina Faso had recorded 13,737 confirmed cases of COVID-19, with 171 confirmed deaths (WHO, 2021). As of 23 August 2021, the WHO (2021) confirmed that 71,510 vaccine doses had been administered. The outbreak disrupted provision of health services, although the country was less affected than others in the region. False rumours circulating around COVID-19 reportedly affect the uptake of malaria medicine, potentially undermining ongoing prevention campaigns (Mednick, 2020).

Societal hazard-related disasters

The security situation in Burkina Faso has deteriorated significantly since 2015. Violent extremist attacks in the north of the country have led to the internal displacement of 1 million people (Kwasi et al., 2019). Public health provision has also been disrupted, with services either closed or partly functioning. School closures have led to limited education access for around 350,000 students

(ACAPS, 2020a). Ongoing violence exacerbates food insecurity in the country, through cattle market closures and reduced sales, and risks intensifying farmer–herder conflicts by concentrating livestock in a few secure areas during early and longer lean periods (ACAPS, 2020a).

In addition to internally displaced people, since 2012 Burkina Faso has hosted over 25,000 refugees who have fled escalating violence in neighbouring Mali (UNHCR, 2020). However, increasing violence in Burkina Faso is now driving some Malian refugees to return home and is prompting some Burkinabe to migrate to Mali (UNHCR, 2020).

Priority 1: Understanding disaster risk

Progress and achievements

In Burkina Faso, the national entities in charge of risk monitoring and early warning are the National Meteorological Agency (*Agence Nationale de Météorologie*, ANAM) and the General Directorate of Water Resources (*Direction Générale des Ressources en Eau*, DGRE), for meteorological and hydrological risk monitoring, respectively. The ANAM is a functioning agency that has built up its scientific and technical capacity alongside investments in modern infrastructure, showcasing one of the widest observation networks in the region. This has been achieved, in part, by the transition of the ANAM from a Directorate to an Agency in 2016, and the associated gain in independence and status (Ministry of Transport interview, 2021).

The Food Security Council (*Conseil National de Sécurité Alimentaire*, NCSA) monitors and provides a food security early warning system (EWS) (World Meteorological Organisation (WMO) interview, 2020). The national meteorological EWS and the food security system appear to have reached institutional maturity and are known to develop accurate alerts. Furthermore, new sensitisation products and initiatives are also underway, including those planned by the World Bank-funded Hydromet Project. In 2020, the food security EWS began producing a bulletin on food security, drawing data and information from meteorological and water management institutions.

Since the 2015 baseline, other common definitions, hazard monitoring and risk assessment systems have been established. The Sand and Dust Storm Warning Advisory System, for example, was launched in 2018 as a partnership between ANAM, the Spanish Meteorological Agency and the Barcelona Supercomputing Centre. The system produces colour-coded maps predicting dust concentration in the coming 48 hours, with different warning thresholds by region (WMO, 2020).

Other government entities also publish hazard data. For example, the National Statistical and Demographic Office provide a range of climate statistics at national and regional levels (Government of Burkina Faso, 2020).

The National Council for Emergency Relief and Rehabilitation (*Conseil National de Secours d'Urgence et de Réhabilitation*, CONASUR), the national disaster management authority, has a functioning database on multi-hazard disaster impacts, losses and vulnerability of households which details damages by region, province and department (UNDP email exchange, 2021). While systematic disaggregation of disaster risk and impacts by gender and other intersectional categories is largely lacking, there are some exceptions; for example, the Hydromet Project is producing gender-disaggregated data by food security EWS and taking gender into account in the development of user-friendly hydrometeorological and climate information services (World Bank, 2018a). Further, the Government of Burkina Faso conducted a post-disaster needs assessment (PDNA) in 2009 following an episode of extensive flooding (Republic of Burkina Faso, 2010).

Various diplomas and master's degree courses on disaster risk reduction (DRR) are available to students and professionals. This includes: courses offered by the Social and Environmental Risk Management Centre of Excellence, launched in 2020 and funded by the World Bank (Ki Zerbo University interview, 2021); in 2020, the West African Service Centre on Climate Change and Adapted Land Use offered master's and doctoral programmes on climate change; and Nazi Boni University offers three master's degrees related to DRR (Ki Zerbo University interview, 2021).

Risk observatories are collaborating with international research centres on DRR innovation and technology. The National Meteorological Agency's collaboration with Spanish meteorological centres and the regional *Centre Regional de Formation et d'Application en Agrometeorologie et Hydrologie Operationnelle* (AGRHYMET) platform – a specialised institution of the Permanent Interstates Committee for Drought Control in the Sahel – are among the most notable examples. Burkina Faso is also part of the AGRHYMET support project focusing on hydro-agricultural research and technological advancement (AGRHYMET, n.d.).

Finally, although no sustained nation-wide risk communication strategy or outreach programme exists, it is widely believed that Burkina Faso's DRR/disaster risk management (DRM) institutions and NGOs are effective and active in mobilising communities on aspects of preparedness and prevention (Nakoulma interview, 2021). The ANAM, for example, uses social media, such as Facebook, to dispatch meteorological bulletins to local radio (National Agency for Meteorology interview, 2021).

Observations and recommendations

Challenges and barriers

The absence of an appropriate legislative framework, coupled with limited national financial and technical resources, continues to hamper the establishment of a fully functional multi-hazard risk monitoring and EWS. In particular, the capacity of risk-specific observatories to share risk alerts with disaster management authorities is limited, as is institutional collaboration (Tarchiani, 2019). At present, each sectorial risk monitoring and EWS works independently. Furthermore, procedures and pre-defined risk thresholds that would allow the current risk monitoring systems to effectively communicate alerts and trigger commensurate action have not yet been established.

A US\$33 million investment by the World Bank as part of the Hydromet Project will help to address these limitations through the establishment of an Operational Platform (*plateforme operationnelle*). The Platform aims to enhance the exchange of risk data between the key risk monitoring entities and EWS (Civil Protection interview, 2020). A study on legislative gaps and operational modalities, conducted in early 2021, will further inform implementation (Ministry of Transport interview, 2021). Legislative reform, through a revision to Law 012/2014 (Gouvernement du Burkina Faso, 2014) to clarify various procedures and definitions, will also address some existing limitations (WMO interview, 2021).

The national capacity to develop flood alerts continues to expand. The Directorate of Water Studies and Information (*Direction des Etudes et de l'Information sur l'Eau*, DEIE) is in the process of formalising its relationship with ANAM and Météo France to bolster its institutional and technical capacity and technical infrastructure, which will lay the foundations for future EWS (Tarchiani, 2019). At present, however, considerable investment is required to make the flood EWS operational (WMO interview, 2020).

Although CONASUR has a disaster impact database, Burkina Faso has not contributed to DesInventar (a free, open-source disaster information management system) since 2016.

In the education sector, while master's degrees on DRR can be achieved (see above), DRR is not yet part of the formal primary and secondary education curriculum. According to the AUC biennial report which tracks progress on countries having DRR integrated into their educational systems at all levels, it was reported that up to 2018 Burkina Faso had made 'moderate progress'; though no further details are provided at a country level (AUC, 2020).

Beyond sector-specific community outreach activities, there is currently limited information on how risk alerts reach vulnerable communities and how this information is used. More generally, despite anecdotal optimism that community participation in the national disaster management system has progressed in recent years, the current limitations on data availability do not allow conclusions to be drawn. To address this, it would be helpful, for example, to bolster risk communication with more robust and systematic approaches, such as linking hazard-specific EWS to local radio networks to enhance community sensitisation, and to track the effectiveness of those efforts with independent research.

Finally, there is insufficient evidence to assess whether and to what extent local and traditional knowledge and practice of DRM is utilised or valued.

Recommendations

(P1 N-1) Mobilise resources for profiling, monitoring and assessing disaster risks.

(P1 N-1) External donors could consider embedding financial support to bolster the DEIE's institutional and technical capacity as part of current and future bilateral and multilateral funding arrangements. The objective of this potential support should be to assist DEIE to become a fully operational flood risk monitoring entity, ready to collaborate with ANAM and Météo France through timely data and information exchange – both crucial for an effective flood EWS.

(P1 N-2) Establish/strengthen technical structures for risk surveillance and assessment.

(P1 N-2) CONASUR could collaborate with the United Nations Country Team (UNCT) and technical and funding entities such as the World Bank to define an operational legislative framework for institutional arrangements and accountabilities to harmonise hazard classification and identification and combine risk and vulnerability mapping. New or revised legislation should include a detailed description of key accountabilities of disaster monitoring and EWS in producing specific actionable information and the protocols of data communication among early warning entities.

(P1 N-2) A partnership – that includes, for example, the Burkina Faso Ministry of Women and Gender, Economic Community of West African States (ECOWAS) Humanitarian Affairs and Disaster Management Division, United Nations Office for Disaster Risk Reduction (UNDRR), United Nations Entity for Gender Equality and the Empowerment of Women (UN Women), United Nations Development Programme (UNDP) and selected national NGOs – could be formed to provide technical support to the various disaster management and risk monitoring institutions, to devise clear and actionable improvements in data collection and reporting in ways that can disaggregate gender and other intersectional impacts. Lessons from global insights on DRR and intersectionality are readily available (such as Lovell et al., 2019) and should be used to help incentivise further data disaggregation, which in turn can inform and improve decision-making around prioritisation of target areas/communities. To ensure that gender empowerment is meaningfully included in the (proposed revision to the) National DRR Capacity Development Plan, specialist agencies such as UN Women and the United Nations Office for the Coordination of Humanitarian Affairs (UN OCHA) could call on the support of GenCap (an inter-agency stand-by partnership) to provide dedicated technical capacity.

(P1 N-3) Harmonise risk and warning definitions and concepts.

(P1 N-3) CONASUR and the relevant early warning observatories could consider partnering with entities such as WMO, UNDP, the World Bank and other DRM experts to develop early warning procedures and standard risk thresholds connected to preventive or response actions of national authorities. Good practices drawn from across the region should help to facilitate the development of such protocols. The ECOWAS Humanitarian Affairs and Disaster Management Division and UNDRR would be well placed to facilitate a process to identify and prioritise such resources in collaboration with the end users.

(P1 N-4) Establish/strengthen DRR databases.

(P1 N-4) The ECOWAS Humanitarian Affairs and Disaster Management Division would be well placed to liaise with UNDRR (as the host of DesInventar) and UNDP (which supports countries to report using the methodology and tool) to invite Burkina Faso to participate in a collaborative process bringing together all West African and Sahelian countries who currently do not report on DesInventar to discuss the incentives and feasibility of doing so, and to design a plan of action to achieve reporting on the system. Based on the insights generated, a set of next steps for action could be devised.

(P1 N-5) Establish DRM information and communication systems.

(P1 N-5) UNDP could play a convener role to leverage the efforts of DRR stakeholders such as CONASUR, the UNCT, the Red Cross and national and international NGOs to design and mobilise a national strategy for risk communication with community-based risk monitoring mechanisms feeding into the national system. This should include efforts to disseminate risk information via radio, newspaper, social media and mobile phone, and to track the effectiveness of different mediums through commissioned independent research so that the risk communication strategy can be updated and improved at biannual intervals and in response to new threats and changing risk profiles. Current efforts to develop a national communication strategy for COVID-19 through the UNDP Sahel Resilience Project could be a useful input to this process (UNDP email exchange, 2021), as a starting point for the inclusion of a range of biological hazards into the national strategy.

(P1 N-6) Operationalise post-disaster damage, loss and impact assessments.

(P1 N-6) A dedicated study on the availability of procedures and tools, and on the level of national capacities for PDNAs should be commissioned to take forward the discussions that began in 2016 and establish a national PDNA framework. The framework should include clearly mandated agencies/institutions responsible for operationalising the PDNA framework in the event of a future disaster, with a specified process for monitoring, evaluation and learning, so that adjustments can be made.

(P1 N-7) Integrate DRR in education and training.

(P1 N-7) CONASUR and the Burkina Faso Ministry of Education, Literacy and Promotion of National Languages could consider forming a partnership to mobilise support and progress on the integration of DRR into formal primary and secondary school curricula. A plethora of teaching and educational materials from other countries already exist and could easily be adapted to the Burkinabe context. The process of collating, prioritising and sharing existing materials could also help strengthen cross-departmental relations between the Ministry of Education and the national DRM authorities more broadly.

(P1 N-9) Mobilise awareness raising and advocacy initiatives.

(P1 N-9) In conjunction, sub-national state authorities, national NGOs and CSOs, and active DRM entities in the country (such as UNDP, World Food Programme (WFP), Food and Agriculture Organization (FAO), WMO, United Nations Children’s Fund (UNICEF) and the Burkinabe Red Cross) could work together to map current and pipeline programmes focusing on risk awareness at the community level and the empowerment of communities for DRR to ensure resources are reaching the most vulnerable (noting vulnerability should include gender and social inclusion disaggregation). The objective of this mapping would be to convene national and international partners and compare the current investments with the cartography of the highest disaster risks in Burkina Faso. This exercise will be a powerful advocacy tool to direct urgent investments towards the most exposed communities. Local and sub-national authorities in these areas should be supported to identify and prioritise needs, minimise duplication, and direct resources to areas lacking in support. Such a scoping could be linked to the grounded ‘Views from the Frontline’ assessment of DRR conducted by the Global Network of Civil Society Organisations for Disaster Reduction, to help build a more comprehensive picture of local-level disaster risk profiles, priorities and experiences.

(P1 N-9) As an extension of the previous recommendation, UNDP and other DRM-focused partners may want to explore collaboration with the meteorological, food security and flood alert systems to strengthen risk information outreach through community radios, traditional leaders and communicators and other locally appropriate methods. Given their convening role, AU and ECOWAS could support the process by suggesting best practices in community outreach from other countries, and possibly peer-to-peer exchanges with other national authorities that have successfully developed and implemented national risk communication strategies. Any communication and awareness raising should strive to be gender- and social inclusion-sensitive, working in collaboration with the Burkina Faso Ministry of Women and Gender, and women-led organisations.

(P1 N-10) Integrate and safeguard local DRM knowledge.

(P1 N-10) To address a major empirical evidence gap, the Burkinabe Red Cross or alternative national DRM entities with sufficient capacity could consider leading the roll-out of an extensive local-level survey to better understand how local knowledge and practices are currently employed to prepare for, prevent and respond to different hazards, and whether and how that knowledge is currently utilised within formal DRM plans and approaches. The results will provide invaluable insights into how communities currently cope with, respond to and recover from disasters, which should feed into revisions to the risk communication strategy as well as hazard-specific EWS and protocols.

Priority 2: Strengthening disaster risk governance to manage disaster risk

Progress and achievements

Significant national and international efforts have been made to strengthen the capacity of the two key disaster management actors in Burkina Faso: CONASUR and its Permanent Secretariat (SP/CONASUR) under the Ministry of Social Action and National Solidarity (CONASUR, 2014); and the General Directorate for Civil Protection (*Direction Générale de la Protection Civile*, DGPC) under the Ministry of Territorial Administration and of Decentralization. The primary role of CONASUR is DRR coordination; its Permanent Secretariat acts as a national DRR platform.

The Hydromet Project is supporting enhanced coordination at the operational level, to improve relations and synergy between the five main DRR agencies: ANAM, DGRE, *Système Alerte Précoce* (SAP, the national EWS), SP/CONASUR and DGPC (Ministry of Transport interview, 2021).

Anecdotal evidence suggests that multi-sectoral coordination has improved since the 2015 baseline. In 2017, a WHO Joint External Evaluation noted ‘insufficient collaboration and exchange between health and crisis management authorities. There is no formalized agreement or standard operating procedures to coordinate joint activities in times of crisis, including at the points of entry’ (OMS, 2018). However, the Ministry of Health has effectively been coordinating the COVID-19 crisis response through CONASUR, with support from the Permanent Secretariat (CNOU interview, 2021).

Since the 2015 baseline, CONASUR has benefited from capacity-building training and financial support to extend its reach in conflict-affected areas. This includes, for example, the UNDP project Building Capacities for Resilient Recovery, which trained 160 staff of five CONASUR member agencies on emergency management and inclusive recovery processes, with a specific focus on internally displaced populations (Luxembourg Aid & Development and UNDP, 2019).

New laws on water management, introduced in 2016, and the environment, in 2017, aim to strengthen regulation of water and environmental assets. Although implementation is variable (discussed further below), there are a variety of sectoral frameworks, policies and plans which complement action on disaster risk, including, for example: the National Adaptation Program of Action, the National Climate Change Adaptation Plan, the Strategic Framework for the Fight against Poverty, the Rural Development Strategy, the National Action Plan for Desertification Control, the National Biodiversity Strategy and Action Plan, the Action Plan for Integrated Water Resource Management, the National Strategy on Food Security and Nutrition Security, and the National Social and Economic Development Program (World Bank, 2018a).

Efforts have also been made within specific sectors, particularly on climate change – including the endorsement of the National Framework for Climate Service in 2016 – and with regard to building codes. There have also been efforts to assess the gendered impacts of changing hazard profiles, such as the 2018 Green Climate Fund (GCF) Gender Assessment (GCF, 2018a). The Directorate General for Civil Protection is responsible for the development and enforcement of building codes and over recent years has taken action to reinforce these codes and to inspect new constructions to assess exposure to fire hazards (DGCP interview, 2021). In 2019, UNDP supported the training of 210 masons in resilient building techniques (PNUD, 2021).

Broader changes to institutional arrangements are ongoing. For example, the National Council for Sustainable Development (CNDD, the new entity replacing *the Conseil National pour l’Environnement et du Développement* (CONEDD)) and its Permanent Secretariat (SP/CNDD) is accountable for promoting environmental sustainability and protection through its network of Focal Points across different line ministries (World Bank, 2018a).

In 2021, as part of the Hydromet Project, a study will review the legislative gaps in DRR/climate change adaptation within Burkina Faso. This research should provide useful guidance on future changes required to the disaster risk governance legal and policy environment and will complement the inclusion of legal reform as one of the project’s priorities (Ministry of Transport interview, 2021).

Finally, although it is too early to assess the results, there are several new investments which directly and indirectly seek to identify and protect ecosystems critical for DRR. This includes, for example, the Ecosystems Protecting Infrastructure project, led by the National Council for Sustainable Development, and another on conservation and climate change vulnerability reduction by the Government of Burkina Faso, the Global Environment Facility and UNDP.

Observations and recommendations

Challenges and barriers

The National Disaster Risk Reduction Strategy 2013–2017 (Gouvernement du Burkina Faso, 2013) has not yet been revised and the ECOWAS 2018 progress report found limited implementation of the National Plan (ECOWAS, 2018). While a plethora of sectoral policies and plans exist that could make a significant contribution to enhancing disaster resilience (as detailed above), these are often only partially implemented and many overlap, causing unnecessary competition (World Bank, 2018a).

Given that Burkina Faso did not develop a new DRR strategy after the 2013–2017 Strategy ended, it is unsurprising that at the local level there is no evidence that local authorities have developed or updated local DRR strategies. It should be noted that Burkina Faso has been severely affected by the security situation in recent years, however, placing national authorities in a constant response mode. This may have been one of the key blocking factors to a linear development of DRR mechanisms.

Burkina Faso has partially reported against the Sendai Monitor indicators. The Sendai Monitor focal point is the Chief of the Statistical Section in CONASUR. He mentions that despite the efforts to gather all the necessary data, there are gaps in the national monitoring systems in some areas and, in addition, relevant focal points within line ministries are not systematically aware of the Sendai monitoring commitments. He believes that dedicated multi-sector training would be a necessary step to build the institutional reporting capacity (CONASUR interview, 2021).

Beyond their respective capacities, one of the central bottlenecks in national DRR management is the notable overlap of mandates between CONASUR and DGPC. Both entities have the mandate to coordinate and provide immediate response to disasters. The ambiguity of national legislation causes confusion around the accountabilities of CONASUR and the DGPC in crisis management – with CONASUR leading the inter-ministerial and inter-agency consultative process based on the national contingency plan, and DGPC following the protocols of the Organization of Immediate Response Plan (*Plan d'Organisation des Secours*, ORSEC) (Civil Protection interview, 2021). However, disaster risk managers have different opinions on the reform needed to address this challenge (Senior Expert Consultation, 2021).

The revision and implementation of Law 12/2014, which places the overall responsibility for emergency management with the Prime Minister and establishes that CONASUR and DGPC should coordinate responses 'jointly' (Bikienga and Garane, 2012), is an important step in resolving this institutional ambiguity. Some informants believe that it would be appropriate to elevate the overall strategic coordination function to an inter-sectoral entity directly under the Prime Minister (this body is already included, on paper, in Law 12/2014) (Ministry of Transport interview, 2021).

Weak institutional anchoring and limited financial resources restrict CONASUR's scope to preparedness and response coordination only. This is reflected in the limited scope of action of sub-national branches: *les Comités Provinciaux de Secours d'Urgence et de Réhabilitation (COPROSUR) au niveau des provinces* (provincial branches); *les Comités Départementaux de Secours d'Urgence et de Réhabilitation (CODESUR) au niveau des départements* (departmental branches); *les Comités Municipaux de Secours d'Urgence et de Réhabilitation (COMUSUR) au niveau des communes* (municipal branches); *les Comités Villageois de Secours d'Urgence et de Réhabilitation (COVISUR) au niveau des villages* (village branches).

According to the Sorbonne Institute for the Study of Economic and Social Development, the fact that the National Council for Emergency Situations and Recovery is hosted by the Ministry of Social Action and not by the President or Prime Minister is a major constraint, due to the lack of political and financial leverage afforded to the institution (Ouedrago and Sanfo, 2018). The ambiguity of national legislation results in limited engagement of CONASUR in the development of cross-sectoral and sectoral national policies. This includes, for example, a weak working relationship with the CNDD, which is responsible for promoting environmental sustainability and protection. CONASUR was also not an active contributor to the National Plan for Economic and Social Development 2016–2020, for example, with the result that the Plan has weak strategic anchoring to the Sendai Framework priorities (Gouvernement du Burkina Faso, 2016a).

Informal discussions held during the Senior Expert Consultation for this study (in March 2021) indicate the willingness of the CNDD and CONASUR to closely cooperate on drafting the new National Plan for Economic and Social Development. Given the continued relevance of most activities included in the National Plan, it would be advisable for any new DRR initiative to consider revising and supporting this comprehensive (and budgeted) document. Similarly, CONASUR was only superficially involved in the development of the National Adaptation Plan (WMO interview, 2021), which was a missed opportunity for greater coherence and potential funding for climate-related disaster management.

Changes to governance arrangements more broadly within Burkina Faso have implications on the effectiveness of inter-sectoral coordination. For example, although CNDD has been replaced by CONEDD, the relationship between CONEDD and CONASUR was perceived as unstructured and ineffective, resulting in overlapping mandates and a dispersion of technical resources for DRR (World Bank, 2018a). A renewed relationship between CONASUR and CONEDD is important in addressing this challenge.

The two key disaster management actors in Burkina Faso, CONASUR and DGPC, continue to have limited capacity to develop strong sub-national activities. Furthermore, active community participation in development and risk reduction work continues to be very limited. A deeper understanding of the political, financial and structural barriers limiting community participation in the design and implementation of development and climate adaptation programmes would be useful in guiding future action at the sub-national level.

Recommendations

(P2 N-1) Formulate gender-responsive DRR policies and plans.

(P2 N-1) In collaboration with the Ministry of Women and Gender, CONASUR and selected women's organisations could consider developing gender and diversity inclusion indicators as conditions for funding DRR capacity-building programmes, and to advocate for similar indicators to be applied to all national DRR investments. Existing material on meaningful gender and inclusion indicators from other West African countries should be provided by UNDRR, UN Women, the Gender and Disaster Network and UNDP to help CONASUR fast-track this process.

(P2 N-1) The Government of Burkina Faso may wish to prioritise the development of an updated National Disaster Risk Reduction Strategy, aligned to the AU PoA and Sendai Framework. The revision would benefit from inclusion of clear descriptions of the statutory interactions between CONASUR and relevant line ministries such as the Ministry of Women and Gender, in line with legislative revisions (described below) and should include specific targets to further mainstream DRR into national policies, plans and budgets. ECOWAS and UNDRR could play an important role in

encouraging the revision of the National Strategy as it has a direct bearing on the global attainment of Target E of the Sendai Framework.

(P2 N-2) Operationalise institutional frameworks.

(P2 N-2) Based on the findings of the planned 2021 World Bank study on DRR legislative gaps, the CONASUR Permanent Secretariat could consider facilitating the revision of the current legislation. The aim should be to clarify and reduce overlaps in mandates and to establish clear institutional hierarchies and coordination responsibilities that can be operationalised in accordance with different hazards/disaster events. Legislative revision should also be seen as an opportunity to expand the current narrow focus on response and DRM, to include clearer mandated responsibility for agencies to work on risk reduction, mitigation, preparedness and recovery.

(P2 N-3) Create/reinforce multi-stakeholder DRR platforms.

(P2 N-3) The National DRR Platform is well placed to lead on exploring options for ensuring that risk mitigation and prevention measures and indicators become a condition for the approval of national development programmes. In recent years, Burkina Faso has introduced conditions of risk prevention as a means of promoting DRR into insurance policies (see Priority 4). Disaster prevention, however, is not yet included among the criteria for the approval of national programmes and projects targeting at-risk areas or specific economic sectors (ECOWAS, 2018). UNDRR should provide examples of disaster prevention measures and indicators for SP/CONASUR to consider and adapt to the Burkina Faso context.

(P2 N-3) The CNDD and SP/CNDD are accountable for promoting environmental sustainability and protection through a network of Focal Points across different line ministries. The relationship between CONEDD and CONASUR is not structured and functional, creating overlapping mandates and a dispersion of technical resources for DRR (World Bank, 2018a). To address this, SP/CONASUR and SP/CNEDD may want to explore ways to enhance their cooperation. Working jointly on the revised DRR legislation (P2 N-1) and on combining DRR conditionalities (P2 N-3) with environmental protection conditionalities would be practical first steps to test new ways of working.

(P2 N-6) Align climate and DRR coordination mechanisms.

(P2 N-6) As indicated by CONASUR during the Senior Expert Consultation for this study (March 2021), SP/CONASUR was more technically involved in the development of the Social and Economic Development National Plan and the National Adaptation Plan. Drawing on its leadership in the Global Assessment Report 2019 (UNDRR, 2019) on the links between DRR strategies and climate change adaptation policies, UNDP is well positioned to provide technical support to CONASUR to effectively integrate risk-informed measures in the development of this critical document, to maximise opportunities towards coherence between climate change adaptation and DRR/DRM actions – particularly when this may provide avenues for funding through climate finance.

(P2 N-7) Facilitate the implementation of the Sendai Framework through practical tools.

(P2 N-7) The bottlenecks inhibiting the flow of predictable financial resources to CONASUR's sub-national extensions requires exploration, as this is the critical limitation of

COPROSUR's sub-national extensions in high-risk areas. Entities with similar experience that may be well positioned to engage alongside national entities for this analysis include the World Bank, GFDRR and UNDP. The World Bank, GFDRR and UNDP, among others, could support CONASUR in advocating with the Ministry of Finance for increased budgetary support, drawing on their experience of

presenting effective cost-benefit arguments to ministers of finance. Based on the analysis and any successes in increasing budgetary allocations, CONASUR should convene technical partners to devise a collective sub-national capacity development plan to reinforce COPROSUR, CODESUR, COMUSUR and COVISUR in high-risk areas. The objective is to enhance their technical capacities to anticipate risks and set up meaningful DRR cooperation mechanisms and initiatives.

Priority 3: Investing in DRR for resilience

Progress and achievements

Although Burkina Faso does not have a national strategy or a centralised mechanism for financing disaster risks and recovery (UNDP, 2019), there is a National Fund for the Prevention and Management of Disaster Risks (*Fonds National de Prévention et de Gestion des Risques de Catastrophes*, FONAGEC). Furthermore, Civil Protection uses an annual state budgetary allocation to cover the costs of salaries and infrastructure, while relying on France, Monaco and the World Bank (among others) to support training, simulations and logistical supplies such as transport and communications.

Several financing mechanisms are available to support humanitarian response activities. These include the National Solidarity Fund, which utilises state and individual contributions to fund humanitarian responses. The Immediate Response Mechanism, established by the World Bank in 2011, is accessible to Burkina Faso and provides flexible crisis finance from undisbursed balances. In 2020, Burkina Faso used this mechanism to respond to the COVID-19 pandemic (WMO interview, 2021). The African Development Bank (AfDB) has a similar crisis response financial mechanism available (CADRI, 2015).

At present, the World Bank-funded Hydromet Project is the most comprehensive source of external funding for risk management, particularly as many of its objectives extend to the range of DRM-related institutions and actors within Burkina Faso.

A costed National Action Plan for Disaster Risk Reduction and Emergency Preparedness and Response Capacity Development 2016–2020 ('National Disaster Risk Reduction Capacity Development Plan') has been developed (Gouvernement du Burkina Faso, 2016b; ECOWAS, 2018). The Plan includes the aim to create an inventory of all current funding streams contributing to disaster resilience outcomes (Gouvernement du Burkina Faso, 2016b), whether framed as DRR/DRM or under other thematic areas such as climate change adaptation, food security, resilience and poverty reduction. This inventory would greatly assist decision-making and prioritisation processes by the government, as well as national and external agencies to ensure appropriate targeting of investments to high-risk populations, including women and women-headed households.

Funding for broader socioeconomic and development goals within Burkina Faso could also help to directly and indirectly reduce risk and vulnerabilities. For example, the World Bank Country Partnership Framework 2018–2023 provides funding for an investment portfolio that targets human development and social protection, with a view to supporting the poorest areas of the country, particularly the north-west (World Bank, 2018b).

The National Social Protection Strategy 2013 (République du Burkina Faso, 2012) is accompanied by a three-year Action Plan 2020–2022 (République du Burkina Faso, 2020) and covers social protection programmes funded by collaborations between various ministries and UNICEF, the World Bank and WFP.

Since the 2015 baseline, Burkina Faso has made progress on risk transfer and insurance. The country is part of the Africa Risk Capacity (ARC) insurance mechanism, and it has recently introduced conditions of risk prevention as a means of promoting DRR into insurance policies (ECOWAS, 2018). In 2019, the World Bank identified more than 100 small-scale social safety net programmes in operation, around half of which were offered by the Ministry of Social Action (Vandenieden et al., 2019).

Observations and recommendations

Challenges and barriers

The lack of a DRR investment mechanism or guidelines on DRR mainstreaming in Burkina Faso is compounded by limited coherent motivation for disaster risk financing from central budgetary support. A costed National DRR Capacity Development Plan 2015–2020 was developed, but implementation has been limited (ECOWAS, 2018).

While Burkina Faso subscribes to the ARC insurance mechanism, the country did not begin to benefit from pay-outs until 2021 (KfW, 2020). Although there has been some positive progress on introducing conditions for risk prevention as a means of promoting DRR into insurance policies, disaster prevention is not included among the criteria for the approval of national programmes and projects targeting at-risk areas or specific economic sectors (ECOWAS, 2018). This is further inhibited by the lack of cross-sectoral guidelines on DRR mainstreaming, including specific guidelines on sectoral budgetary allocations.

The National DRR Capacity Development Plan includes the proposal to undertake an inventory of current funding streams covering DRR-relevant areas, such as climate change adaptation, food security, community resilience, decentralisation and poverty reduction. This would be an important preliminary step towards enabling more informed decision-making around the pursuit of risk-informed development and economic trajectories. It would also help to inform government investment to enable a focus on protecting and empowering the most vulnerable at-risk populations.

Despite a plethora of small-scale social safety net programmes (see above), there remain limitations in coverage. The 100 small programmes identified by the World Bank in 2019 cover just 2.6% of the population, and only 39% of the programmes are cash-based. According to the World Bank, the current safety net coverage is neither aligned with vulnerability along the life cycle (only six programmes focus on the birth to five years age group) nor with poverty across the country's regions (Vandenieden et al., 2019).

There are several thematic areas within the AU PoA where empirical or current evidence is lacking. For example, evidence on the availability of hazard-resilient building codes for schools and health facilities is limited.

The overall active involvement of communities in the design and implementation of local development plans and DRR programmes is still limited. Similarly, there is a lack of data and evidence on the extent to which community-based DRR activities are being funded, by whom, where and for how long. As systematic formal budgetary allocations to the sub-national level seem to be lacking, this could only be determined through new empirical research which seeks to document local to national and external finance for DRR/DRM projects across different hazards and geographies. However, this mapping would only be relevant for a limited period, as funding portfolios of external donors change annually. Efforts should be focused on establishing more robust systematic financing flows for sub-national DRR actions, while making the case to government and

external donors for the integration of DRR into sectoral and thematic project portfolios – particularly including those related to humanitarian responses, conflict reduction and climate change.

Recommendations

(P3 N-1) Design/operationalise national DRR investment plans.

(P3 N-1) CONASUR, supported by specialist entities with expertise on DRR financing, could consider assessing the effectiveness and complementarity of the National Solidarity Fund and FONAGEC to advocate for more emphasis on preparedness and prevention investments, possibly with a goal of setting specific targets for financing, and for conditionalities for investment approval around prevention, preparedness and gender empowerment. The ECOWAS Humanitarian Affairs and Disaster Management Division, UNDP or other relevant DRR entities could consider investing in a global review of humanitarian and DRR/DRM funds to assess the change processes of funds that transitioned from response-orientated to a focus on planning and preparation. Independent think tanks, regional or continental research institutes would be well placed to undertake such an analysis and the findings could inform all the countries covered by this study.

(P3 N-1) CONASUR and Civil Protection, together with UNCT and the Capacity for Disaster Reduction Initiative (CADRI), may wish to prioritise updating the costed National DRR Capacity Development Plan to identify the most urgent activities, and the required national and external funding to deliver those activities. Specific emphasis could be placed on the viability of accessing central and decentralised climate funds to finance activities, in conjunction with a review of the coherence between agencies and actions on DRM/DRR and climate change adaptation (see recommendations in Priority 2). The potential links to new funding available from external donors to support West African countries in devising and delivering post-COVID-19 recovery plans could also be assessed, given that pandemic threats are within the remit of the Sendai Framework.

(P3 N-2) Develop/strengthen national disaster risk financing mechanisms.

(P3 N-2) CONASUR could consider developing a rapid inventory of the current funding streams covering DRR-relevant thematic areas (such as climate change adaptation, food security, community resilience, decentralisation and poverty reduction) across different aspects of risk management, including risk transfer, risk-sharing and risk mitigation, preparedness and recovery. The findings could help to inform near-term decision-making on the development of a dedicated DRR investment plan and to better understand the DRR investment portfolio across all sectors. Methodological support for the assessment will be required, which the World Bank and/or GFDRR would be well placed to provide.

(P3 N-3) Completion of a DRR/climate change adaptation public expenditure review could be useful to the Government of Burkina Faso. The aim would be to better understand how public finances are organised to tackle some of the most pressing challenges facing the country, with an emphasis on tackling current and future risk trajectories. This could include analysis on the return on investment for a sub-set of priority sectors. The findings could then be used to advocate to ministries/sectors that do not currently integrate DRR/DRM into their investment plans. Tried and tested messaging from the World Bank and GFDRR would be helpful, as these entities are experienced in presenting cost-benefit and return-on-investment information in ways that are relevant to a broad range of sectoral ministries and ministers. In time, this should be linked to the development of operational guidelines for sectors to mainstream DRR into their investment portfolio (something that does not currently happen).

(P3 N-5) Develop DRM guidelines on safety of schools, health facilities and critical infrastructure.

(P3 N-5) CONASUR may find it useful to consider leading a process to assess the availability, relevance and compliance with international standards of building and operational codes for schools, hospitals and critical infrastructure. CONASUR could use the findings to create a proposal to enhance the authority of line ministries (infrastructure, health and education) to monitor and enforce standards and regulations, with clear annual progress targets to ensure that by 2030 all schools, hospitals and critical infrastructure adhere to the agreed standards. Specialist DRR entities may wish to support CONASUR through this process by providing a shortlist of existing guidelines and materials developed for other countries on this topic.

(P3 N-6) Promote and fund community-based DRR.

(P3 N-6) New empirical research is required to better understand the formal and informal financing flows underpinning sub-national to local-level DRR/DRM actions. The methodology for this research should place equal emphasis on informal financing to uncover: the extent to which individuals and communities fund risk reduction actions themselves; the impact on individual and household incomes and financial security, taking a social inclusion lens to identify intersectional variations; and the trade-off between ex-ante investment with ex-post disaster impacts and the cost of disaster recovery.

Priority 4: Enhancing disaster preparedness for effective response and to ‘build back better’ in recovery, rehabilitation and reconstruction

Progress and achievements

As described under Priority 1 and Priority 2, sectorial- and hazard-specific EWS have been improved since the 2015 baseline: including, for example, the upgrading of the Meteorological Service to an Agency in 2016, and the food security EWS. While each system remains siloed, the Hydromet Project aims to support further institutional reform by bringing them together under a single coordinating platform (Ministry of Transport interview, 2021).

The capacity of both national systems (CONASUR and DGPC) has been steadily strengthened in recent years, with the two institutions now well versed in coordinating the contingency and response phases of disaster management. UNDP has undertaken specific training with CONASUR on emergency management and recovery (see Priority 2). With political, financial and technical support, the clear plan of action for maturing DRR/DRM within the country will come to fruition, as most activities within the National DRR Capacity Development Plan 2016–2020 remain relevant.

Two DRM plans exist: the National Multi-Hazard Contingency Plan under the direction of CONASUR and the ORSEC Plan under the direction of the DGPC. All 13 regions have an ORSEC plan and the DGPC is currently seeking financial support for the development of provincial ORSECs (DGPC interview, 2020).

Progress has been made for specific hazards. For example, the DGPC manages the fire brigades, which now offer a 24/7 telephone service under the number ‘18’. Anecdotal evidence suggests that most citizens are aware of this service (Civil Protection interview, 2021).

In building training and response capacities, the DGPC trains 200 new recruits annually in emergency response as part of the compulsory civil service programme in collaboration with the High Institute for Civil Protection Studies (*Institut Supérieur d’Etudes de Protection Civile*) (Civil Protection interview, 2020). The training is reputable and has previously included civil protection staff from other countries in the region. Large simulation exercises have also taken place under DGPC, one for Ebola virus and another for H1N1 (‘swine flu’) (Civil Protection interview, 2020).

Burkina Faso has multiple bilateral and multilateral arrangements with external donors that provide financial support to strengthen various aspects of the DRM system. This includes support from UN agencies, international NGOs, the AfDB and the European Union (EU). Since 2017 external funding has steadily increased, peaking in 2020 due to increased support to respond to the COVID-19 pandemic. According to UN OCHA's Financial Tracking Service, humanitarian aid contributions totalled US\$308.8 million in 2020 (UN OCHA, 2021). Other notable investments are the World Bank-supported Immediate Response Mechanism (see Priority 3) and the Hydromet Project. Other support has been specific to particular at-risk groups. For example, in 2020, the EU provided €24.8 million to Burkina Faso in the form of humanitarian aid for conflict-affected populations, to respond to the food and nutritional crisis and to build the DRM capacity of local organisations (EC, 2020).

Observations and recommendations

Challenges and barriers

The overlap of disaster management responsibility between CONASUR and the DGPC continues to limit the efficiency of preparedness and response in Burkina Faso. These two leading institutions have two separate planning processes, the National Multi-Hazard Contingency Plan and the ORSEC Plan. Both institutions continue to suffer chronic financial constraints, which inhibits progress and operational collaboration and prevents outreach at the sub-national level.

Both CONASUR and the DGPC primarily focus on the coordination of the contingency and response phases of a disaster, with limited investment in longer-term disaster resilience or disaster recovery mechanisms. To address this, as discussed in Priority 2, closer cooperation between CONASUR and the DGPC with the line ministries leading poverty reduction, social protection and climate adaptation strategies could help to ensure stronger risk-informed development trajectories and disaster recovery approaches, alongside a more vulnerability focused allocation of development funding.

Outdated strategies remain a challenge. The Africa biennial report on the implementation of the AU PoA (AUC, 2020) states that Burkina Faso has a DRR strategy in place although interviewees report that the National Disaster Risk Reduction Strategy has expired. There is thus no current DRR strategy, nor any focused strategies or frameworks focused on preparedness, response or disaster recovery. A political economy analysis is required to better understand why the unimplemented activities detailed within the National DRR Capacity Development Plan 2016–2020 were not taken forward.

Anecdotal evidence suggests that most of the DRR actors within the country are hoping that the revision to Law 012/2014 (Gouvernement du Burkina Faso, 2014) will clarify the coordination of DRR/DRM between the different entities and establish a central coordinating crisis prevention and management entity under the Prime Minister. It is also hoped that the Hydromet Project will support this much needed progress (WMO interview, 2021).

Despite progress on fire hazard response infrastructure under the DGPC, fire brigades are not readily available in every region and in crisis situations the service is often saturated and becomes unavailable (Civil Protection interview, 2021).

Recommendations

(P4 N-1) Strengthen multi-hazard EWS.

(P4 N-1) As part of the Hydromet Project, the World Bank aims to create a central coordinating platform for the various sectoral and risk-specific EWS. This requires collaborative support from all major national and international entities working on aspects of DRR/DRM. To create an effective coordination platform with tangible impacts on disaster resilience outcomes, many of the

recommendations detailed throughout this report will need to be implemented in advance or in parallel. There is also scope, not only to create a coordinating platform, but also to use the opportunity to review the interoperability of hazard and risk monitoring systems, to revise the legislative framework for the management of disaster risk to better clarify institutional mandates, and to enhance risk communication and financing through dedicated accompanying strategies. All these actions will require multi-year investment of finance, technical support and political will.

(P4 N-1) The DGPC could consider conducting an independent review of the community sensitisations on fire hazard and risk management to assess their effectiveness, with a view to scaling up the roll-out to increase the geographical coverage and, in time, to expand the range of risks included. A full roll-out would require collaboration with the Burkinabe Red Cross and sub-national branches of the CONASUR and DGPC, together with strong engagement of national NGOs and CSOs.

(P4 N-2) Develop national preparedness and response strategies incorporating gender and ‘build back better’.

(P4 N-2) In line with the recommendations made in P2 N-1, both the National Strategy for Disaster Risk Reduction and the P4 N-3 National DRR Capacity Development Plan require updating. Combining the two processes may be cost-efficient and could bring together all the key operational and financial partners. To incentivise sectors/ministries to designate a focal point, sector-specific briefings should be held to help them understand the relevance of DRR to achieving their sectoral/ministerial objectives and plans. Detailed sector-specific arguments for why mainstreaming of DRR is important, and why the designation of a focal point is of value to that sector, are already available in various forms; for example, through PreventionWeb and from the GFDRR website. As part of the Hydromet Project, the World Bank, for example, could provide technical support to the roll-out of sector-specific briefings as a precursor to the revision process, as could other technical specialists.

(P4 N-2) Alongside the shortage of current DRR/DRM strategies on preparedness and response, there is a lack of integration of gender-responsive DRR measures. Further investment is required to bolster the collective understanding of differentiated gender disaster risks, gender-sensitive DRR approaches and the inclusion of gender in monitoring and reporting disaster vulnerabilities and impacts. Direct engagement of the Ministry of Women and Gender by upskilling selected staff on DRR issues would be valuable, as well as formal collaborations with the country’s key DRM institutions. Further specific recommendations are made in P1 N-2 and P2 N-1.

(P4 N-2) Given UNDP’s technical and financial investments in disaster recovery across the region, it is well placed to collaborate with its technical specialists within the global teams to better define an approach to disaster recovery that is appropriate to the local context in Burkina Faso. As a first step, this would require building the capacity of key individuals within CONASUR and DGPC and representatives from key ministries (infrastructure, health, education, women and gender) to understand what happens on the ground in formal disaster recovery. This should then be complemented with original empirical research by an independent research institute that specialises in understanding informal self-recovery processes undertaken by local communities. This research could both identify what happens on the ground and create a better understanding of local and traditional capacities for post-disaster recovery. These insights should inform the development of a Burkinabe framework for disaster recovery, accompanied by a financing plan and operational plan of implementation. To the extent feasible, this plan will take consideration of core themes relevant for

effective risk management including gender and social inclusion, intersectionality, conflict sensitivity and environmental protection, among others.

(P4 N-2) UN Women could consider supporting SP/CONASUR in including the UN OCHA Gender Marker (IASC, 2018) or similar tools as a conditionality for national and international funding to preparedness and response operations. CONASUR may find it helpful to appoint a focal point to ensure that all operations meet the Gender Marker standard. The Ministry of Women and Gender could fulfil that role. UN Women could also call on the expertise of GenCap (see P1 N-2) to support CONASUR in this endeavour.

(P4 N-3) Create/strengthen national preparedness and response institutions.

(P4 N-3) An independent political economy analysis should be funded to better understand why the unimplemented activities detailed within the National DRR Capacity Development Plan 2016–2020 were not taken forward. CADRI would be well placed to engage with, or lead, this process. The findings would not only help to inform an updated version of the Capacity Development Plan but would also help to sense-check and ground plans being crafted by CADRI as part of their support to bolster DRR capacity within UNCT.

(P4 N-3) In line with the recommendations made in Priority 2, Law 012/2014 (Government du Burkina Faso, 2014) requires revision to enhance clarification of the CONASUR and DGPC mandates, and the establishment of a central coordinating crisis prevention and management entity under the Prime Minister (see above).

(P4 N-4) Develop comprehensive preparedness and response plans.

(P4 N-4) In conjunction with the recommendations under Priority 3, regional and international donors experienced in funding DRR activities could support the DGPC to develop DRR investment plans to facilitate the implementation of the 13 regional ORSEC plans and to support the development of provincial ORSECs (DGPC interview, 2020). Given its experience in disaster recovery, UNDP could consider developing a training programme on disaster recovery specifically for regional-level decision-makers who will be designing provincial ORSECs, to ensure these plans adequately include disaster recovery actions.

(P4 N-6) Facilitate partnerships to mobilise humanitarian funding.

(P4 N-6) Given the significant ongoing humanitarian funding to Burkina Faso, the country's DRR experts in collaboration with ECOWAS should consider publishing a briefing paper to define what the stronger inclusion of long-term disaster resilience and disaster recovery would entail as part of humanitarian and crisis funding. This would essentially be a Burkinabe interpretation of the current UNDRR efforts to articulate how DRR fits into crisis financing and response (UNDRR, 2020), and would be a good test case for ECOWAS; if this briefing received a positive reception from the government and international donors, the integration and scaling up of DRR into humanitarian funding and the humanitarian programme cycle could be pursued.

Chapter 4: Chad

Reader's guide:

- This section briefly describes the risk profile of Chad before summarising the progress and achievements made, and barriers and constraints, for each of the four priority areas of the African Union Programme of Action (AU PoA) (which mirror the four areas of the Sendai Framework).
- For each of the four priority areas, the summary of progress, challenges and barriers *specifically reflect* the Priority Activities from the AU PoA implementation matrix (see Chapter 1).
- Detailed recommendations are provided for each priority area, linked to the specific AU PoA Priority Activities. The coding system described in Chapter 1 is employed to help readers connect the recommendations to the AU PoA Priority Activities.
- Although specific national recommendations are provided, readers are encouraged to adapt the recommendations to other countries, as appropriate.
- Further details of Chad's progress on disaster recovery are included in Chapter 11.
- Details of the methodology (primary and secondary evidence collection and analysis) that informed this chapter can be found in Chapter 1 and Annex 4.
- Acronyms are written in full the first time they are used within the chapter.
- Chapter bibliographies are included at the end of the report, which are further separated into the general overview for each country followed by the priority areas.

General overview

The Republic of Chad is a low-income Sahelian country in Central Africa with a population of 16 million people (World Bank, 2021a). The country has a presidential system and is divided into 23 provinces – including the country's capital N'Djamena, which benefits from a special status – 112 districts and 414 municipalities (République du Tchad, 2018a).

Since 2015, the Chadian economy has been either in recession or has experienced low levels of growth (World Bank, 2021b). In 2019, Chad achieved 3.3% growth in gross domestic product (GDP) and GDP per capita of US\$710 (World Bank, 2021b; 2021c). The country is reliant on oil exports, and therefore changes to crude oil prices in 2015 had significant impacts on the economy, leading to a two-year recession in 2016–2017 (UNCTAD, 2020; World Bank, 2020; FEWS NET, 2021). In 2020, growth was expected to shrink to 0.8% as a result of the COVID-19 pandemic (World Bank, 2020).

The country has low levels of human development and ranks towards the lower end of the Human Development Index 2020: 187 out of 189, comparable to other countries in the region (UNDP, 2020a). Almost 47% of the population live below the national poverty line; the proportion of the population living in multidimensional poverty is higher at 85.7% (UNDP, 2020a). Literacy rates are low, as are levels of enrolment in secondary and tertiary education at 23% and 3%, respectively (UNDP, 2020a). Primary school enrolment rates are high, at 87%, but the dropout rate of 71.4% means that many children do not complete their primary schooling (UNDP, 2020a). These indicators illustrate the challenges that Chad is facing in educating its young population and improving its skilled labour pool, which now constitutes just 7.6% of its workforce (UNDP, 2020a). Providing

women with access to education, healthcare and political representation is another continued challenge facing the country (UNDP, 2020b).

COVID-19 has been a more recent threat, with the government responding to the pandemic with containment measures, declaring a state of public health emergency, imposing curfews, restricting border and interstate movement, and closing places of worship, schools and other public spaces. Government containment measures, lower oil prices and production rates all affect the economic outlook (IMF, 2021). Poor and very poor households experienced a drop in income as a result of pandemic-related measures, which has affected food security. Non-farm incomes from wage labour along with remittances from seasonal and permanent migrants have also decreased (FEWS NET, 2021).

Humanitarian assistance is helping to avert food crisis situations among displaced and host households in the Lac region of Chad (FEWS NET, 2021). In Tibesti, lower incomes are limiting food access, while in other regions good agricultural production helps keep consumption at a minimal level (FEWS NET, 2021). The Chadian government is prioritising post-COVID-19 recovery, poverty reduction and debt sustainability (IMF, 2021).

Further compounding the crisis situation, the death of Chad's President Idriss Déby on 20 April 2021 has been a source of concern (Moncreiff et al., 2021). Following a presidential election that took place amidst concerns over impartiality and social and political upheaval, Idriss Déby was confirmed as the winner, marking 30 years in power and re-election for a sixth consecutive term. The death was reported following clashes between the national army and Front for Change and Unity in Chad (FACT) (Moncreiff et al., 2021). A Transitional Military Council established by the army and led by Déby's son has been created to oversee an 18-month transition during which elections are expected to be held. However, with many political and military groups viewing the council as illegitimate, concerns abound over the future security and stability of the country and potential violence that may occur (Moncreiff et al., 2021).

Risk profile

Chad is highly exposed to hydrometeorological, environmental, biological and societal hazards. The country ranks 31st on the 2020 World Risk Index (Behlert et al., 2020). While the country is not as exposed to natural hazards as others in the region, its high susceptibility and lack of adaptive and coping capacities mean that it ranks second only to the neighbouring Central African Republic on vulnerability (Behlert et al., 2020). Chad experiences a range of climate-induced hazards, with recurrent droughts and floods affecting millions of people. Land degradation, low soil fertility and insufficient precipitation contribute to crop failures and lead to insufficient pasture for livestock grazing, affecting both farmers and populations reliant on them for food. At the same time, changing transhumance corridors are leading to farmer–herder conflicts. Locust infestations, unsustainable farming practices and overgrazing also contribute to poor agricultural outcomes and food insecurity.

Relatively low vaccination rates, a precarious health system and inadequate access to safe water sources, sanitation and hygiene facilities mean that the country is at risk of disease outbreaks and epidemics. Chad is at high risk of fragility and faces complex regional security dynamics. The country hosts thousands of refugees and internally displaced persons (IDPs), predominantly from neighbouring Sudan and the Central African Republic, as well as returnees. The presence of Boko

Haram and the Islamic State of Iraq and Syria – West Africa (ISIS-WA) likely contributes to Chad's continued fragility.

Hydrometeorological hazard-related disasters

Chad is exposed to a host of hydrometeorological hazards. The region is experiencing temperatures that are rising one and a half times faster than the global average, with mean temperatures in Chad increasing by 0.7°C since 1960 (Vivekananda et al., 2019; World Bank, 2021d). There is considerable seasonal temperature variation, with winter ranges of 20–27°C and summer ranges of 27–35°C (World Bank, 2021d). By the 2060s, annual temperatures may increase by up to 3.4°C and by up to 5.4°C by the 2090s (World Bank, 2021d). The duration of the rainfall season and precipitation levels vary across the country. The rainy season is longest in southern Chad, which receives more precipitation than other parts of the country (between 150mm and 300 mm monthly), followed by central Chad (between 50mm and 150 mm). Northern Chad, where rainfall is scarce, has the shortest rainy season (World Bank, 2021d).

Modelling suggests a likely increase in rainfall across the country, though with a significant degree of variation: from -15mm to +9 mm monthly by the 2090s (World Bank, 2021d). Rainfall levels dramatically declined during the 20th century but recovered by the turn of the millennium (World Bank, 2021d). During the dry seasons between 2000 and 2006, Chad experienced high precipitation, although no consistent trend was detected (World Bank, 2021d). Climate-sensitive livelihoods dominate the Lake Chad region, where variation in the size of the Lake and climate has prompted people to seek alternative livelihoods for generations (Nagarajan et al., 2018). This is particularly the case in the north of the Lake where flood variability is highest. Lake Chad shrank from 25,000km² in 1960 to just 2,000km² in the 1990s, leading to displacement of people and undermining state legitimacy, before expanding to around 14,000 km² by 2019 (Vivekananda et al., 2019). Nagarajan et al. (2018) highlight that while fishing and other sectors are affected by the Lake shrinkage, recession agriculture may benefit through greater fertility; the uncertainty over future changes to precipitation is a cause of greater concern than changing climate.

Chad experiences recurrent droughts and floods. While floods occur more frequently – the most recent flooding, in July 2020, affected over 330,000 people (FSC, 2020) – droughts affect more people. The most recent drought, in 2017, affected 1.8 million people, while earlier droughts in 2012 and 2009 affected 1.6 and 2.4 million people respectively (EM-DAT, n.d.). Extreme rainfall is common during the rainy months of July and August. Climate change is also leading to heavy rains with violent thunderstorms and above-normal rainfall (Mayans, 2020). A storm in October 2020 affected IDP and refugee sites, destroying 1,368 shelters and affecting 6,840 people at the Dar Al Kheir IDP site alone (UN OCHA, 2020).

Droughts and floods are both leading to land degradation and lower soil fertility, with less land available for livestock grazing, while insufficient precipitation leads to crop failures (Mayans, 2020). By 2050, agricultural yields in sub-Saharan Africa are predicted to decline by up to 22% (Schlenker and Lobell, 2010). Changing routes and periods of livestock transhumance are leading to farmer–herder conflicts (Mayans, 2020). At the same time, scarcity and inflation due to declining crop and livestock production are affecting both farmers and populations reliant on them for food production (Mayans, 2020). During the 2020 rainy season, record precipitation was recorded in Chad and across the Sahel (UN OCHA, 2020). The resultant flooding in Chad affected almost 400,000 people, causing displacement, severely affecting water, sanitation and hygiene (WASH), and education, health,

shelter, and food security through destruction of food stocks and cultivated lands, washing away cattle and flooding market stock (UN OCHA, 2020).

Environmental hazard-related disasters

Desertification, the drying up of Lake Chad, dwindling fish stocks and loss of animal and plant species are just some of the environmental hazards facing Lake Chad (World Bank, 2021d). Growing populations of people and livestock, overgrazing, deforestation and unsustainable farming practices are all among factors contributing to land degradation (LandLinks, 2010). Around population centres, clearance of natural vegetation for food production is leading to desertification and deforestation (LandLinks, 2010). Environmental and biological hazards also intersect with the country at high risk of locust infestations that may further threaten livelihoods and food security (FAO, 2020).

Biological hazard-related disasters

Relatively low vaccination rates and a precarious health system mean that Chad experiences periodic outbreaks of measles, cholera, meningitis, hepatitis A and E, and Vaccine Derived Polio Virus (cVDPV) (UNICEF, n.d.; UN News, 2017). In 2019, the country accounted for 2% of global malaria-related mortalities, recording almost 3,400 deaths (WHO, 2020). During the recent measles outbreak, which affected 97% of districts in the country, over 30,000 cases and 336 deaths were reported (UNICEF, n.d.).

The WASH situation remains precarious across the country. In 2017, only 5.8% of the population had access to hygiene services, 8.3% had access to basic sanitation facilities and 38.7% to basic drinking water sources, with significant disparities between urban and rural areas (WHO and UNICEF, n.d.). Inadequate access to hygiene, safe drinking water and sanitation all contribute to disease outbreaks (UN News, 2017). Flooding and muddy roads often limit humanitarian access to areas in need (UN News, 2017).

As of 25 August 2021, the country recorded 4,987 confirmed cases of COVID-19 with 174 mortalities (WHO, 2021). The Government of Chad responded to the spread of the virus pandemic with containment measures, declaring a state of public health emergency, imposing curfews, restricting border and interstate movement and closing places of worship, schools and other public places. As of 23 August 2021, the WHO (2021) reported 39,770 vaccine doses administered.

Societal hazard-related disasters

Chad has experienced conflict at different points throughout its history, including episodes of intercommunal violence (International Crisis Group, 2019). According to the Fragile States Index, the country is at high risk of fragility, although it has improved marginally over the past decade (Fragile States Index, n.d.). Chad faces complex regional security challenges. The country is home to thousands of refugees, IDPs and returnees. In 2021, the refugee population numbered almost half a million, predominantly from Sudan and Central African Republic (UNHCR, 2021). The number of IDPs has reached 336,000, with an additional 70,000 Chadian returnees at risk of statelessness (UNHCR, 2021). In the Lac region of Chad, IDPs and host families are likely to experience crisis (Integrated Phase Classification (IPC) Phase 3) levels of food insecurity in the absence of humanitarian assistance (FEWS NET, 2021).

Chad is also at risk of violence and terrorist attacks due to the presence of Boko Haram and ISIS-WA groups. The former is the most active terrorist organisation in the country, while the latter maintains presence predominantly in the Lake Chad region (U.S. Department of State, 2019). In 2019, the

country experienced a higher number of terrorist attacks, though their magnitude has declined (U.S. Department of State, 2019).

Priority 1: Understanding disaster risk

Progress and achievements

National authorities in Chad have mapped the main hazards the country is exposed to in a relatively detailed way. The Information System for Rural and Land Development (*Programme de Système d'Information pour le Développement Rural et Aménagement de Territoire*, SIDRAT) provides reference maps on geological, climatic and hydrometeorological risks. In 2015, Chad created a map of humanitarian interventions for malnutrition to complement data collected by the Information and Early Warning System for Food Security (*Système d'Information sur la Sécurité Alimentaire et d'Alerte Précoce*, SISAAP).

The National Meteorological Agency (*Agence Nationale de Météorologie*, ANAM), SISAAP and the Information System for Epidemiological Surveillance are the main institutions mandated to assess and monitor risks and issue warnings when appropriate. Despite insufficient capacities, both ANAM and SISAAP are fully operational. Furthermore, sectoral databases are used to monitor food security, floods, migration, health and climate risks. A nutrition database is housed at SISAAP and the World Food Programme (WFP), a flood database by the United Nations Office for the Coordination of Humanitarian Affairs (UN OCHA), a database on population movement by the United Nations High Commissioner for Refugees (UNHCR), and a climatological database at ANAM (SISAAP interview, 2021).

Existing sectoral Early Warning Systems (EWS) include alerts on flood, nutritional and epidemiological risks. EWS largely provide national coverage, except for flooding (for which only the N'Djamena area is monitored). Their implementation depends on a de facto collaboration between ANAM and other institutions responsible for assessing and monitoring risks. SISAAP, the N'Djamena municipality, and other institutional partners confirmed that they regularly consult the weather reports released in the context of this joint effort.

Established in 2013 with funding from the European Union (EU) and technical support from the Food and Agriculture Organization of the United Nations (FAO), SISAAP monitors and issues alerts on food and nutrition security (SISAAP interview, 2021). SISAAP is reportedly able to adequately assess, observe, monitor and respond to nutritional insecurity across the entire country, centralising data and coordinating outreach to various service providers. It has 12 staff at the national coordination level and 69 departmental observers at the sub-national level (SISAAP interview, 2021).

Furthermore, SISAAP benefits from state subsidies and external support. In 2019, the EU through WFP contributed 326,846,351 Central African CFA francs (CFA) and the state mobilised CFA 78,959,000 (SISAAP interview, 2021). In addition, ANAM's capacity is being enhanced through collaboration with various technical and financial partners. New investments into EWS include strengthened climate, hydrometeorological and EWS services under the World Bank funding to the Climate Risk and Early Warning System (CREWS) project, which began in January 2020 (CREWS, 2020a; 2020b). Similarly, densification of the weather monitoring network is underway, with support from the Global Environmental Facility (GEF) in acquiring 64 weather stations covering the entire national territory (ANAM interview, 2021).

A number of technical structures exist to facilitate strengthened monitoring and sharing of hazard and risk information, the functionality of which has fluctuated over time. Notably, the Meteorological Working Group works more intensively from May to October, meeting every 10 days to produce agro-hydro-meteorological bulletins containing advice that is then broadcast on national radio (ANAM interview, 2021). The operation of this platform is supported by the state, as well as funding from FAO, WFP and partners (ANAM interview, 2021).

In the post-disaster context, individual entities such as the Chadian Red Cross undertake post-disaster assessments to inform response needs (International Federation of Red Cross and Red Crescent Societies (IFRC) interview, 2021). Nationally, efforts were made to scale up post-disaster capacity, with delegates from Chad attending the Economic Community of Central African States (ECCAS) training in 2019 with experts trained in various aspects of the post-disaster needs assessment (PDNA) methodology (GFDRR, 2020). Furthermore, the Chadian Red Cross undertakes emergency training for its first responders (IFRC interview, 2021).

At the start of each winter, SISAAP and ANAM organise awareness-raising campaigns at fairs throughout the country. SISAAP also holds a record of the volunteers who run training sessions. The national television and radio networks broadcast weather forecasts; in 12 provinces, community radio stations also relay these bulletins (Djekounda, 2017; National Meteorological Agency interview, 2021).

The N'Djamena metropolitan authorities have engaged in activities to foster public awareness of flood risks. Technical and financial partners, as well as non-governmental organisations (NGOs), have conducted similar initiatives in other districts, along with efforts to raise awareness of terrorist activities and risks in the exposed provinces of the Lake and Hadjer-Lamis. The Hadjer-Lamis province also uses an EWS to alert against the threat of violent extremism.

There are several developments in the integration of disaster risk reduction (DRR) into educational and training programmes, which the AUC biennial report classified as 'moderate progress' relative to other countries (AUC, 2020). For example, at the University of N'Djamena, the master's degree in Rural Development and Land Development integrates courses on DRR (University of N'Djamena interview, 2021), as do several sectoral programmes on nutritional risks (SISAAP interview, 2021). There are also promising signs for the future, with a master's degree in DRR in discussion at the Faculty of Geography at the University of N'Djamena (University of N'Djamena interview, 2021), and express support from the Directorate of Civil Protection (*Direction de la Protection Civile*, DPC) to better integrate DRR into their civil service training curricula (Civil Protection interview, 2021). Finally, under the CREWS programme, plans are underway to develop a capacity-building plan and training in partnership with one of the regional or global centres, such as the Permanent Interstate Committee for Drought Control in the Sahel (CILSS), the Regional Training and Application Centre for Agrometeorology and Hydrology (*Centre Régional de Formation et d'Application en Agrométéorologie et Hydrologie Opérationnelle*; AGRHYMET), *l'École Africaine de la Météorologie et de l'Aviation Civile* (EAMAC) or the West African Science Service Centre on Climate Change and Adapted Land Use (WASCAL) (CREWS, n.d.).

Finally, there have been some efforts to facilitate stronger local engagement in planning processes, such as the development of the Participatory Scenario Planning guide by CARE International, Oxfam and Action by Churches Together (ACT) Alliance in 2017 (ANAM interview, 2021). One aim was to

enable climate information to be collated from multiple sources including local experiences and scientific reports, and be used to inform climate forecasts, which are then transformed into relevant, timely and actionable guidance; the practical guide developed has not been widely disseminated (ANAM interview, 2021).

Observations and recommendations

Challenges and barriers

National, provincial and local risk assessments are needed to identify and monitor the range of hazards that Chad is exposed to. Without these and a reliable database to steer its policies, Chad largely depends on knowledge dissemination efforts led by external partners, including United Nations (UN) agencies. The key administrative bodies responsible for risk monitoring are poorly funded. This has particularly impeded the operations of ANAM, which stopped issuing health bulletins as a result. Similarly, the EWS for health emergencies continually encounters financial and technical difficulties that reduce operational impact. However, the COVID-19 pandemic has brought renewed political and financial attention to the importance of tracking and acting on epidemiological risks (Civil Protection interview, 2021).

Although there are various risk monitoring institutions, the surveillance of meteorological and hydrological hazards remains extremely limited. Weather observation stations are scattered throughout the country, yet the network only employs four engineers and technicians to oversee them. In addition, technical resources are scarce: only one station is fully automated, while several synoptic weather reporting stations have been left to stand derelict.

Although the country has several sectoral EWS, public authorities have not established any multi-risk observatory or multi-hazard EWS. The creation of a national observatory for the collection of data on disasters remains highly anticipated. Indeed, this is one of the recommendations of the National Capacity Building Action Plan 2015–2020 (CADRI and République du Tchad, 2015). A further barrier is the lack of established definitions for key hazard and risk terms and concepts. For example, definitions are largely absent from legal and regulatory frameworks, and a lack of understanding of DRR concepts among national-level authorities across most sectors has been well recognised (CADRI and République du Tchad, 2014; Lo and Dionko, 2016). There is also a lack of comprehensive, detailed and disaggregated data on Chad in the Centre for Research on the Epidemiology of Disasters (CRED) EM-DAT International Disaster Database (Lo and Dionko, 2016). Despite sectoral databases existing (see above), at various degrees of upkeep, it is widely regarded that there is a lack of dispersion of data and difficulty in sharing data (Lo and Dionko, 2016; Senior Expert Consultation, 2021), and it has been reported that some climatological databases are based on software that is now obsolete (SISAAP interview, 2021).

The National Institute for Statistical, Economic and Demographic Studies (*Institut National de la Statistique, des Études Économiques et Démographiques*, INSEED) does not hold or have access to current information on disasters and their impacts (Civil Protection interview, 2021). The DesInventar database (a free, open-source disaster information management system) is not systematically updated and as such there is no centralised and administered database for use by decision-makers wanting to be more risk-informed (Civil Protection interview, 2021). There is an absence of national, provincial or local software or a mechanism for tracking Sendai Framework indicators, and the key DRR entities do not have a statistician responsible for data collection and/or

input into initiatives such as DesInventar or the Sendai Framework Monitor. As such, agencies wanting to source disaster data are referred to individual sectoral institutions and line ministries.

Post-disaster assessments of damage and losses are not systematic nor is there national coverage for such data collection. Efforts such as those by the Chadian Red Cross (see above), though useful for response, do not provide a comprehensive picture of losses and damages, nor do they cover all disasters.

Overall, staff from key institutions responsible for profiling, monitoring and assessing disaster risks remain inadequate and poorly qualified. Moreover, unless there is a significant scale-up in recruitment of qualified meteorological experts, the five engineers and technicians currently in post will be retired and ANAM will be without qualified staff (ANAM interview, 2021).

Training on DRR is at an embryonic stage. Positive efforts were underway, with planned training for ANAM technicians (which was suspended due to COVID-19) and state-subsidised training at AGRHYMET (which was suspended due to the economic crisis) (ANAM interview, 2021). The training for civil servants provided by AGRHYMET has also been suspended. In terms of the formal curricula, primary and secondary schools do not provide education on the subject, so awareness and dissemination of risk information is limited. In higher education, DRR may be alluded to in classes on climate change or food security but there are no dedicated core courses on the topic.

Despite substantial efforts to alert the public to potential risks, forecasts and warning messages remain widely misunderstood, in part due to widespread illiteracy. Understanding of flood hazards is good among residents of N'Djamena, but insufficient in other parts of the country where awareness-raising campaigns are infrequent.

Recommendations

(P1 N-1) Mobilise resources for profiling, monitoring and assessing disaster risks; (P1 N-4) Establish/strengthen DRR databases.

(P1 N-1) and (P1 N-4) The recommendation of a 2016 World Bank review (Lo and Dionko, 2016) to put in place the legal and institutional framework for the establishment of a nationally administered and integrated EWS remains relevant. With growing scientific and policy attention to the intersection of risks – food insecurity, climate, stability and security, and more recently epidemiological risks, among others – there is a need to develop the systems to effectively harmonise risk monitoring across hazards and sectors. To begin, a scoping study could be commissioned to assess the feasibility of making current hazard monitoring systems interoperable, and the steps that would be required, both politically and technically, to combine risk monitoring processes for a sub-set of the most impactful hazards. Given its related work in this area, the CREWS project could consider financing such a study.

(P1 N-1) Major investments in climate, hydrological and meteorological services in Chad, such as those from the World Bank, GEF and CREWS, could build in and expand a workstream that explicitly seeks to bolster and provide sustainable means to fund and routinely up-skill technical staff within ANAM. This could begin by subsidising technicians to attend the AGRHYMET training (as previously planned) and funding the recruitment of new staff to ensure sustained capacity over the coming 5–10 years (to bridge the gap with current staffing). As an intermediary step, it would be worthwhile to

reach out to existing fellowship schemes, such as the ODI Fellowship (ODI, 2021), and call for two-year postings of skilled environmental science graduates to support the transition.

(P1 N-3) Harmonise risk and warning definitions and concepts.

(P1 N-3) There is a need to roll out a basic skills and terminology training to key DRR and sectoral specialists across the country, communicating basic risk management concepts, and introducing foundational DRR resources such as the latest guidance from ISC and the United Nations Office for Disaster Risk Reduction (UNDRR) on hazard terminology and classification (ISC and UNDRR, 2020), INFORM Risk Index, DesInventar and the Sendai Framework Monitor. Agencies with experience of undertaking such trainings would be worth considering for this task, such as UNDRR, in collaboration with ISC, UN OCHA and specialised institutions such as AGRHYMET, among others.

(P1 N-4) Establish/strengthen DRR databases.

(P1 N-4) Based on the findings of the scoping study described in P1 N-1, as part of a regional effort to scale up inclusion of hazard and disaster impact monitoring into internationally recognised systems, UN OCHA, together with UNDRR, ECOWAS and the Economic Community of Central African States (ECCAS) (of which Chad is a member), should collectively assess the 'readiness' of each state and its respective hazard and sectoral monitoring capabilities and processes. Chad, along with other states in the region that do not currently report, could be supported through a multi-year process to routinely report on international hazard datasets such as DesInventar, and be part of a peer-to-peer process for doing so. This process can be linked to the routine gatherings at the Regional DRR Platforms and Ministerial Meetings, with a broad approach taken to advancement, including both financial and technical support to establishing the required technical interface, but also advocacy support provided to enable DRR institutions and statistical departments to understand why such reporting is critical. In time, this peer-to-peer mechanism could develop to support use of datasets in cross-sectoral decision-making and transform to be a forum for promoting risk-informed development decision-making.

(P1 N-6) Operationalise post-disaster damage, loss and impact assessments.

(P1 N-6) Building on the 2019 PDNA training in N'Djamena, follow-up support is required to maintain and implement the methodological skills learnt by the participants. This initial training by ECCAS could be complemented by linking to assessment tools developed specifically for the Chadian context, and the creation of clear parameters for how data collected from the implementation of a PDNA will be published, shared and used to inform future responses. UNDP (which has expertise on the country context and can support on the post-disaster response and recovery aspects) would be well placed to design and deliver a sustained process of engagement to bolster capacity and the development of a simple yet practical process for putting newly learnt skills into use.

(P1 N-7) Integrate DRR in education and training; (P1 N-9) Mobilise awareness-raising and advocacy initiatives.

(P1 N-7) and (P1 N-9) The low levels of public awareness of disaster risks are concerning. Unlike some of the recommendations for other countries in this study, for Chad the limited educational infrastructure and literacy rates mean that integration of DRR into the school curriculum may be some way off. Efforts for achieving the AU PoA P1 N-7 and P1 N-9, on integration of DRR into education and risk awareness respectively, could instead be better directed towards expanding the

range and number of educational radio and television programmes communicating aspects of risk management that most directly speak to the needs and priorities of the population. Specifically, raising awareness of the impact of climate-related disaster risks – which could be built into existing programmes funded by climate finance such as CREWS and various GEF projects, among others, as well as on topics such as post-disaster response to inform the development of data collection processes – could be incorporated into humanitarian disaster response and recovery interventions.

(P1 N-7) Integrate DRR in education and training.

(P1 N-7) Where there is already support to integrate DRR into formal tertiary curricula, such as through master’s programmes at the University of N’Djamena, existing DRR training guidelines should be shared by DRR experts to help make this process simpler, to avoid duplication of effort, and to allow professors at the university to focus on adapting those guides to the Chadian context. This could include, for example, sharing the latest findings from the Capacity for Disaster Reduction Initiative (CADRI), which has sought to collate a repository of DRR training across socio-economic, environmental and cultural sectors. This would be a simple information-sharing exercise that could help kick-start the expansion of DRR courses offered to degree and master’s students.

(P1 N-9) Mobilise awareness-raising and advocacy initiatives.

(P1 N-9) Targeted awareness-raising radio programmes aimed at Chadian parliamentarians, mayors, religious leaders and high-level civil servants would be beneficial, as noted in the 2014 National Capacity Assessment Report for Risk Reduction, Emergency Preparedness and Response (CADRI and République du Tchad, 2014). The specific entry points for a conversation on DRR should be tailored to current affairs and popular topics of the day, to feel more relevant, and where possible encouraged to take a dialogue or phone-in style format to enable public debate between those affected and those responsible for delivering development in a disaster-risk informed manner. Importantly, these need to be carefully orchestrated and informed by climate and disaster scientists and experts from the University of N’Djamena to ensure accurate reporting of the country’s risk profile. Media outlets that have experience in designing and delivering such programmes could be useful partners for Chadian radio and television networks. At the global scale, examples of media outlets with experience in this field include Thomson Reuters Foundation and BBC Media Action.

Priority 2: Strengthening disaster risk governance to manage disaster risk

Progress and achievements

At the time of the 2015 baseline, Chad had developed and implemented a number of National Poverty Reduction Strategies and a Poverty Growth and Reduction Strategy – although the inclusion of DRR was rarely implemented beyond the general enabling environment that poverty reduction as a whole contributes to building disaster resilience. Moreover, the implementation of these strategies was often challenging owing to periods of insecurity across the country (CADRI and République du Tchad, 2014). The pre-baseline National Development Plan, which ran from 2013 to 2015, acknowledged the impact of natural hazards on the country and the need to take action on environmental protection and climate change (CADRI and République du Tchad, 2014).

Several current policy and development plans and frameworks directly or indirectly support efforts on disaster resilience. For example, the current National Development Plan (PND) 2017–2021 (République du Tchad, 2017a) includes commitments to address food security, while long-term strategic frameworks such as ‘Vision 2030: Chad We Want’ (République du Tchad, 2017b), adopted

in 2017, include ambitions to improve the quality of life for Chadians. The Vision's accompanying Five-Year Development Plan 2016–2020 includes the prevention and management of disasters, as well as adaptation to climate change (Lo and Dionko, 2016). The UN Partnership Framework for Sustainable Development 2017–2021 (République du Tchad and UN Chad, 2017) includes action on disaster preparedness and recovery, and the management of crises. Finally, the National Health Development Plan 2018–2021 (République du Tchad, 2018b) aims to stimulate the implementation of health services across the country, and contribute to the broader objectives of DRR, resilience and sustainable development.

Chad is a signatory of a number of international frameworks signed prior to the baseline, but which remain of relevance to the assessment. This includes the 2005 adoption of a National Action Plan to Combat Desertification (PAN-LCD) under the UN Convention to Combat Desertification (UNCCD), and, in 2010, a National Programme of Action for Adaptation to Climate Change (PANA), under the UN Framework Convention on Climate Change (UNFCCC), which Chad signed and ratified in 1992 and 1993 respectively (Lo and Dionko, 2016). In line with these ambitions, Chad is engaging in initiatives to protect critical ecosystems, such as the Great Green Wall Project, and establishing a green belt around N'Djamena (Zougoulou and Alrari, 2010).

Chad is developing a DRR strategy that will be aligned with the Sendai Framework. A technical validation process was undertaken in December 2020 (Civil Protection interview, 2021), although the timeframe for further development has been difficult to ascertain. This has been achieved with support from the Sub-Saharan Africa Disaster Resilience Building Programme (BDR-ARCC), implemented by the African Union Commission (AUC), UNDRR, World Bank, Global Facility for Disaster Reduction and Recovery (GFDRR) and ClimDev-Africa (UNDRR, 2021).

The DPC (created by Decree No. 384/PR/MAT/2002 in September 2002, see Lo and Dionko, 2016) and the Ministry of Territorial Affairs and Autonomous Communities (*Ministère de l'Administration du Territoire et des Collectivités Autonomes*, MATCA) are responsible for DRR. Established in 2002, the MATCA decentralised its services in 2011 (Decree No. 529/PR/PM/MCD/2011 of 1 June 2011, see République du Tchad, 2011). Its sub-national antennae are the District Action Committees (*Comités Provinciaux d'Action*, CPA), the Departmental Action Committees (*Comités Départementaux d'Action*, CDA), and the Local Action Committees (*Comités Locaux d'Action*). They manage data collection and are responsible for drafting reports for the national authorities (Decree No. 2272/PR/PM/2017, see République du Tchad, 2017c). In addition, they provide technical support to other administrations involved in the planning and monitoring of development policies and emergency operations. The Action Committee facilitates policy dialogue on DRR while cooperating with various stakeholders. Support to bolster the DPC has been forthcoming, including, for example, an endowment of office equipment in 2019 from the ECCAS as part of BDR-ARCC.

Other institutional strengthening successes since the 2015 baseline include the Directorate General of Meteorology being upgraded to the National Meteorological Agency (ANAM) by Law 035/PR/2015 of 18 August 2015 (Lo and Dionko, 2016). Supported by stronger legal standing and reportedly financially self-sufficient, the ANAM has oversight of the government's meteorological policy, as well as aspects of operations such as weather and climate data (Lo and Dionko, 2016).

Supported by the FAO, the Action Committee for Food Security and Crisis Management (CASAGC) oversees the prevention of and response to nutritional risks (Decree No. 2272/PR/PM/2017, République du Tchad, 2017c). The Committee is attached to the Ministry of Agriculture and placed

under the authority of the Humanitarian Coordinator. The CASAGC is primarily responsible for the prevention of food and nutrition crises, the strengthening of people's capacity to better guard against crises and the coherence of actions to improve the food and nutritional security of populations (Lo and Dionko, 2016).

Notable given the COVID-19 pandemic, the Directorate of Disease Control and Health Promotion convenes the epidemiological surveillance system (*Service de Surveillance Epidemiological Intégré*), and is responsible for disease identification and eradication, including an Expanded Vaccination Programme that provides technical health support to sub-national health entities, as well as analysing health data and providing emergency information to the National Technical Committee for the Control of Epidemiological Risks as part of its emergency measures – which include improving health outcomes in the event of disasters (Ministère de la Santé Publique de la République du Tchad, 2020). More recently, the Ministry of Health has developed the National Contingency Plan for the Preparedness and Response to COVID-19 (Ministère de la Santé Publique de la République du Tchad, 2020). There are also other technical institutions, such as the National Fire Brigade, created in 2012 by Ordinance 024/PR/2012 (Lo and Dionko, 2016).

In 2014, a cross-sectoral working group was set up to serve as a discussion platform on DRR, coordinated by representatives from the Ministry of Territory Administration and the Ministry of Planning and International Cooperation with technical support from the United Nations Development Programme (UNDP). This working group brings together more than 50 members from all the ministries and technical services concerned (agriculture, livestock, environment, meteorology, education, health, finance) as well as their partners (UN agencies, NGOs, Red Cross, N'djamena University, City Hall, etc.) (CADRI and République du Tchad, 2015). In February 2016, the Working Group was formalised by Order 007/PR/PM/MPCI/SG/2016 and currently acts as a national DRR platform. Despite the lack of operating resources, it meets on the last Thursday of each month and more frequently in response to major events. It is principally responsible for the coordination, development, implementation and monitoring of the National Capacity Building Action Plan for Disaster Risk Reduction 2015–2020 (Lo and Dionko, 2016).

Finally, there is a Chadian representative as part of the network of parliamentarians for DRR and climate change adaptation in Central Africa, established in 2015 (ECCAS, 2015). The aim of the group is to enhance the powers of parliamentarians to formulate and strengthen national DRR legislative frameworks.

Observations and recommendations

Challenges and barriers

The 2016 review (Lo and Dionko, 2016) of institutional and legal frameworks for disaster prevention and risk management in Chad detailed the weak institutional and legal grounding of DRR within the country. DRR is diffusely considered in the country's strategic development documents and is not promulgated within a strong regulatory framework. In the absence of a comprehensive legislative act addressing the issue, plans of action proceed from a series of haphazard policies, development strategies and sectoral recommendations. Often perceived as a hindrance to economic development, DRR is not factored in the 2017–2021 PND (République du Tchad, 2017a).

Since its inception, institutional and circumstantial constraints have prevented the DPC from adequately carrying out its mission. Qualified staff are scarce, and recruited managers are not

trained well enough to understand DRR. Insufficient financing also severely impacts the quality of the DPC's work. Institutional politics adds to these difficulties, as the DPC has been regularly excluded from large-scale national initiatives (Lo and Dionko, 2016). Occasional capacity-building activities supported by technical and financial partners have supplied the DPC with additional resources, but further efforts should be made.

Tight budgets also constrain the actions of the DRR Working Group, the entity acting as a DRR platform and intended to be responsible for ensuring the implementation of the National Capacity Building Action Plan for Disaster Risk Reduction 2015–2020 (CADRI and République du Tchad, 2015; DPC interview, 2021). In the opinion of all experts, it is desirable that a formal DRR platform be created, secured at the highest administrative level and equipped with the financial and human resources necessary for its proper functioning (Senior Expert Consultation, 2021).

Furthermore, prior to the baseline in 2015, the CADRI evaluation (CADRI and République du Tchad, 2014) noted the lack of synergy between those working on DRR and those on climate change adaptation. At present, opportunities are still not being taken to better link the institutional entities that work on DRR with those that work on climate change adaptation, which are managed by two different ministries. The DPC, housed in the Ministry of the Interior, holds the lead on DRR while climate change is managed by the Ministry of Environment, Water and Fisheries. Although the DRR Working Group includes a representative from the Ministry of Environment, Water and Fisheries on climate change, this is widely considered to be insufficient to strengthen the links between the two themes.

Other operational entities such as the Fire Brigade are only present in N'Djamena (Lo and Dionko, 2016).

Sustaining sectoral and cross-sectoral platforms remains a concern. For example, the Meteorological Working Group (see Priority 1) received financial support from CILSS until 2000, when it was devolved to the state. The operationalisation of the platform was supported by partners, especially WFP and FAO, although aside from issuing some forecasts the group has since been reported as suspended due to lack of funding (ANAM interview, 2021).

Significant advancement is required to strengthen regulations, standards and codes to improve the legal and regulatory environment for DRR and ensure its enforcement and compliance. For example, while Law No. 14/PR/98 (République du Tchad, 1998) defines general principles for environmental protection and requires Environmental Impact Studies (EIS) to be conducted for any project that could harm the environment, interviewees were generally unsure of whether this is enforced or where the results of EIS reside. No other data can be found on the existence of an enforced legal or regulatory environment to ensure disaster risk informs planning and decision-making processes.

Recommendations

(P2 N-1) Formulate gender-responsive DRR policies and plans.

(P2 N-1) It has been difficult to determine the extent or quality of design and implementation of gender-sensitive policies and plans across the various national development and disaster frameworks. A specific scoping exercise could be undertaken to assess their inclusion, and to situate the progress (or lack thereof) on gender and social equality across the country. Only by adopting a broader critical assessment of gender relations will it be possible to devise a set of actionable and

viable recommendations on how to bolster gender inclusion and sensitivity in ways that can contribute towards meaningful change, given the extensive challenges around gender discrimination, cultural norms and gender rights (UNHCR, 2017). Given these broader challenges, action on gender in the context of DRR should take a staged approach, starting with gender-sensitive provisions in humanitarian response, then building such considerations into preparedness and recovery, and then as part of broader risk-informed development ambitions.

(P2 N-2) Operationalise institutional frameworks.

(P2 N-2) To avoid the artificial inclusion of ‘gender’ within updated development and disaster policy frameworks, a more nuanced understanding of how to enact meaningful change is required, starting with a coalition of experts who have experience in integrating considerations of gender and inclusion within conflict-affected contexts where entrenched social-cultural norms present barriers to progress. All DRR stakeholders including DCP, MATCA and the DRR Working Group, together with UNHCR and DRR-focused entities such as the Gender and Disaster Network, would be well placed to participate in such a conversation.

(P2 N-3) Create/reinforce multi-stakeholder DRR platforms.

(P2 N-3) If it is desirable to attempt to institute normative DRR governance arrangements within Chad, the formal launch of national and local DRR platforms will be critical to demonstrate the existence of a strong institutional framework on DRR and effective coordination of DRR activities. Formalising the DRR Working Group into a National DRR Platform will be necessary, situated as a high-level entity in the formal governance arrangements, and provided with financial and human resources. However, institutional fragility at the national level does not necessarily favour the establishment of high-level coordination mechanisms on DRR or inter-ministerial cooperation under the authority of the head of government, so careful consideration should be given to where the DRR Platform should be housed and/or back-up options to ensure continuation even in the event of future political upheaval. If taking the more traditional route, peer encouragement from neighbouring states to the Chadian Government is required to formalise the establishment of the DRR Platform, alongside regional encouragement by ECCAS and the AUC. It may also be worthwhile for those interested in enhancing DRR within the country to consider an alternative approach, one which relies more heavily on connecting nodal sectoral entities; such an approach would serve as a coordination mechanism to pull together DRR actions from a DRR perspective, but without having to establish DRR-specific institutions, platforms and mechanisms (Peters et al., 2019). This alternative idea, suggested by Peters et al. (2019), warrants further consideration given the current developmental limitations in the country.

(P2 N-4) Formulate/reinforce legal and regulatory environment for DRR.

(P2 N-4) An update to the review of DRR legislation and the policy environment conducted by Lo and Dionko (2016) could be undertaken, with a view to updating the information to include changes related to climate change adaptation and mitigation policies and frameworks, and with a stronger focus on the regulatory environment. The World Bank/GFDRR would be well placed to fund this, given their earlier financial backing of similar assessments. The review should include challenges related to land tenure, which currently drive local-level conflict and impede disaster risk-informed land-use planning. The findings could then be used by the DRR Working Group to inform advocacy

for required changes to the regulatory environment and priorities for future national development strategies.

(P2 N-6) Align climate and DRR coordination mechanisms.

(P2 N-6) DRR stakeholders in the country could consider what would be required to strengthen the institutional and governance arrangements for action on climate and disasters within Chad. This would be both technically valuable and politically strategic, given the availability of climate finance. The UNDP country team, with the support of their regional office, are well placed to take the lead in considering this intersection, given their international expertise for the *Global Assessment Report on DRR 2019* (UNDRR, 2019) on linking DRR strategies and climate change adaptation plans of action, and their experience in supporting similar strengthening initiatives across the globe. As several of the developmental and disaster plans expire in 2021, simple guidance on what a strengthened collaboration between DRR and climate change adaptation could entail is urgently needed to inform the next iteration of such plans, which will run from 2022.

(P2 N-7) Facilitate the implementation of the Sendai Framework through practical tools.

(P2 N-7) It would be valuable to conduct an independent assessment of CADRI's recent capacity-building missions – including in Chad – to identify lessons to be learnt about the way in which the National Capacity Building Action Plan for Disaster Risk Reduction 2015–2020 (CADRI and République du Tchad, 2015) was devised and intended to be funded. Collaboratively, entities including but not limited to CADRI, DPC, MATCA and the DRR Working Group could then undertake a process of review to assess whether to create a new iteration of the plan, and importantly whether the same or a radically different approach is required (see P2 N-3); for example, a stronger emphasis on coordination between climate, food security and livelihood interventions, among others, rather than seeking to institutionalise DRR-specific governance institutions and mechanisms.

Priority 3: Investing in DRR for resilience

Progress and achievements

The operating costs of public institutions responsible for DRR are covered by the state budget, albeit insufficiently.

Every year, Chad's budget makes provision for rescue funds to be available in the aftermath of major disasters. The Ministry of Agriculture and Irrigation has allocated funds to the SISAAP since 2014, while the Ministry for Social Action finances the Social Solidarity Fund (used to implement emergency response operations and provide support to disaster-affected families). Specific budget lines are set aside for the Fund for Preparedness and Response to Epidemics by the Ministry of Public Health. Despite these measures, however, administrative bodies in charge of DRR are not granted appropriate budgets.

The Special Fund for the Environment is functional, with revenue collated from taxes and royalties from forest, wildlife and fisheries (Lo and Dionko, 2016), although interviewees were unable to detail how these resources are redistributed and whether they contribute to DRR-related outcomes.

The ANAM has financial autonomy and has entered into numerous Memorandums of Understanding (MoU) with various stakeholders for the production of their on-demand weather forecasts (ANAM interview, 2021).

Often, the only available funds are those allocated by external partners to specific DRR projects. The SISAAP is a striking example: its operating costs were almost entirely funded by grants from the FAO from 2013 to 2017 (€4.5 million). It has also benefited from substantial support from the EU in the amount of CFA 326,846,351 (SISAAP interview, 2021).

As an example of food security financing, the 11th European Development Fund provided €297 million to activities pertaining to food security and rural development, of a total of €442 million and an additional €100 million announced in 2017 (EC, 2017). Financing from the International Fund from Agricultural Development (IFAD) supports the Agricultural Systems Resilience Improvement Project with an estimated budget of US\$36.2 million. Launched in 2014, the project is expected to reach completion by 2021 (IFAD, n.d.; Lo and Dionko, 2016).

Several social safety net programmes are in operation across the country, funded by the EU and World Bank. For example, in 2016 a US\$10 million grant was awarded to help Chad develop its National Strategy for Social Protection. The investment targeted the western Logone, in the Sahel region of Bahr-El-Gazel and in the urban and suburban districts of N'Djamena (Banque Mondiale, 2016). There is evidence that the Sahel Adaptive Social Protection programme (SASPp), which operates in Chad and five other Sahelian countries, has created increased solidarity and encouraged women's group savings, which provide a degree of financial security in the event of climate shocks and stresses, as well as enabling women to financially contribute to household resilience (Perezniето and Holmes, 2020). Funded through a collaboration between the World Bank, the Government of the United Kingdom, the French Development Agency (*Agence Française de Développement*, AFD) and the German Federal Ministry for Economic Cooperation and Development (*Bundesministerium für wirtschaftliche Zusammenarbeit und Entwicklung*, BMZ), the SASPp is entering its second phase (2020–2025) and aims to become shock-responsive (World Bank, 2020a).

Risk insurance in Chad is still in its embryonic stages. Research has been conducted to develop risk transfer financing mechanisms at the national and local levels (DPC interview, 2021). Public authorities are also considering whether establishing insurance agencies would be helpful in enacting further social security measures such as non-contributory transfers to vulnerable households (DPC interview, 2021).

In 2016, Chad joined the African Risk Capacity (ARC) to help increase protection against droughts. The arrangement is housed in the Ministry of Production, Irrigation and Agricultural Equipment. The *Arcview* tool has since been configured to take account of the country's risk profile. The insurance contract was signed in 2019 (Ministère des Finances et du Budget de la République du Tchad, 2019). The insurance mechanism facilitates the mobilisation of financial resources in the event of a severe drought. It remains to be seen whether these funds will be readily accessible when they are needed.

Finally, some training and capacity-building sessions are being offered as part of individual projects (DPC interview, 2021). For example, one-off training sessions have been delivered on PDNAs. There are also plans for future training for key DRR stakeholders through the CREWS project, which is planning capacity-building for ANAM (SISAAP interview, 2021).

Observations and recommendations

Challenges and barriers

Financing for DRR should be considered within the broader context of a heavily constrained national budget and fragile economy heavily affected by oil price volatility and regional insecurity (World

Bank, 2020b). Two years of deep recession have been followed by a COVID-19 related downturn due to border closures, suspension of oil production and trade slowdown (AfDB, 2021). Furthermore, as DRR is not a prominent theme in national development plans and strategies, the likelihood of centrally allocated funds for DRR is small (Lo and Dionko, 2016; Senior Expert Consultation, 2021). Moreover, the DPC is not regarded as a heavy-weight entity that can influence the formulation of government budget lines (DPC interview, 2021).

It is unsurprising that public expenditure on prevention and preparedness activities is meagre. The funds required to ensure efficient functioning of the main DRR institutions, such as the DCP, MATCA, Fire Brigade and others, are wholly insufficient and woefully under resourced in relation to the disaster risk profile of the country (see above).

The budgets granted to the Ministry of Agriculture and Irrigation, the Ministry for Social Action, and the Ministry of Public Health to support DRR are routinely not available in full. The availability of state subsidies, especially for the benefit of SISAAP, is a challenge; the sums announced at the beginning of the budget year are often only partially mobilised (SISAAP interview, 2021). For example, in 2015 the budget for the SISAAP was scrapped entirely; the institution had expected an endowment of CFA 25 million. In 2019, SISAAP only received CFA 78,959,000 out of a planned budget of CFA 378,959,500. The following year, the government did not allocate any funds to the SISAAP, although it had promised CFA 293 million. Hence, grants from external partners are widely acknowledged as the only reliable source of funding.

Despite some successes in social safety nets, monitoring and evaluation systems are nascent and include only the most basic indicators on sex disaggregation, which limits any insights into the impact of such systems on gender relations, inclusion or other aspects of intersectionality (Perezniето and Holmes, 2020).

No investments have been made to strengthen DRR in the various business sectors, nor does the state provide funds for national and local authorities to increase their efforts in this domain. There are no specific budgets allocated to prevention, preparation and recovery activities, as available funding mainly goes to emergency response operations.

Though a number of funds are instituted in law, many are widely regarded as non-functional. For example, the Decentralised Territorial Communities Support and Solidarity Fund (Article 107 of Law 002/PR/2000) (République du Tchad, 2000), which describes state guarantees to decentralised local authorities of the provision of a mutual aid and solidarity fund in the event of a disaster, has not been reliably operational since its creation (Lo and Dionko, 2016). Similarly, it has not been possible to ascertain whether any funding mechanisms are specifically available for DRR at the sub-national level, with the Chadian Red Cross noting that while it promotes community-based approaches, there are limited funding mechanisms available outside of project-specific interventions.

It has also not been possible to ascertain the extent to which risk-informed development is understood or pursued by the Ministry of Land Development, Housing Development and Urban Development, which is responsible for land planning and urban development, building quality and safety (Lo, 2016). Furthermore, it is unclear whether any guidelines are available on ensuring the safety of schools, health facilities and critical infrastructure (DPC interview, 2021).

Finally, one-off training sessions offered to DRR stakeholders are widely regarded as appreciated by interviewees; however, they are insufficient to keep pace with the changing science around climate and disaster risk. There is a lack of qualified personnel on DRR and no clear career path for anyone wanting to work on disaster-related issues.

Recommendations

(P3 N-1) Design/operationalise national DRR investment plans.

(P3 N-1) Given the disaster risks and vulnerabilities faced by the country, Chad requires some form of disaster risk investment plan; however, this must be realistic, highly flexible and strategically positioned to tap into current and future investment opportunities, such as those related to climate finance, post-COVID-19 recovery and climate security. Regarding the former, efforts to decentralise climate finance may provide lessons adaptable to the Chadian context that offer hope for channelling climate finance to the local level (see Quevedo and Bird, 2019).

(P3 N-1) Related to the above and considering the severe economic constraints faced by the country, more strategic engagement in other avenues of funding will be required by DRR stakeholders, such as those being discussed under the remit of climate security by the UN Climate Security Mechanism, G5 Sahel (Ministry for Europe and Foreign Affairs, 2020) and bilaterally by the AFD and the Government of Germany. While there is plenty of global and regional literature detailing the links and complementarity between DRR and climate change adaptation, further work is needed to readily position DRR as a valuable contribution to efforts and funding streams related to climate security. The German Corporation for International Cooperation (*Deutsche Gesellschaft für Internationale Zusammenarbeit, GIZ*) is already scoping work in this field but would benefit from more explicit engagement by country, regional and continental DRR stakeholders – including those from across the G5 countries (Burkina Faso, Chad, Mali, Mauritania and Niger). First, a think piece could be commissioned to articulate the links and contribution of DRR to peace and stability, and to climate security pathways. Next, the findings could be shared with the DRR Working Group and G5 members, specifically their technical counterparts. Finally, consideration could be given to explicit advocacy for DRR to be a more prominent feature of current and future funding arrangements aiming to tackle climate security-related risks in the country and the Lake Chad Basin region.

(P3 N-2) Develop/strengthen national disaster risk financing mechanisms.

(P3 N-2) There are opportunities to improve broader risk transfer mechanisms by exploring the enhancement of existing social protection systems to be more shock-responsive. This will require substantial investment, politically, financially and technically, but should be investigated, taking the lead from the ambitions to do this under the SASPP. Specifically, a scoping study could be conducted to assess the viability of lessons on adapting existing social protection mechanisms to be more shock-responsive to the Chadian context. As an example, in collaboration with country and regional experts, technical experts from the World Bank, the Institute of Development Studies (IDS) or ODI would be well placed for this task given their previous experience in designing and modifying such mechanisms across West and East Africa. Based on the findings, a detailed transition plan could be developed to lay the necessary foundations for social protection systems to be shock-responsive, while targeting the combined outcome of strengthening understanding, capacity and action on disaster risk management (DRM). This would require capacity-building in emergency preparedness

and response, as well as risk communication and enhanced coordination between humanitarian agencies, DPC, MATCA and the SASPp.

(P3 N-2) There would be value in placing attention on adaptive social protection systems in conflict contexts, areas in which many agencies have experience, including more recently the World Bank, the International Policy Centre for Inclusive Growth (IPC-IG) and the United Nations Children's Fund (UNICEF) (Tebaldi, 2019). Regarding the former, action learning research could accompany adaptation of the SASPp. This would enable empirical evidence to be collected on the barriers, opportunities and entry points for designing and delivering shock-responsive social protection mechanisms. Specifically, mechanisms in contexts where natural hazard-related risks occur alongside other shocks and stressors, such as violent conflict, economic and political volatility, and post-pandemic recovery.

(P3 N-2) Greater attention to enhancing gender and social inclusion across the SASPp would be worthwhile. Perezniето and Holmes (2020) have already made useful recommendations on enhancing gender sensitivity within the SASPp. These include, for example: the development of a gender strategy for the programme; building capacity and strengthening institutional structures to deliver a gender strategy and ensure gender-responsiveness throughout the programme cycle; strengthening monitoring, evaluation and learning systems to better disaggregate impacts on subsets of society with intersectional differences; and developing a gender-responsive research agenda to inform targeting, EWS, delivery and monitoring.

(P3 N-2) In the absence of a national investment plan for DRR and a severely constrained fiscal environment, efforts to scale up investment in DRR may want to target alternative avenues, namely the integration of DRR into humanitarian response and through stabilisation initiatives in the Lake Chad Basin region such as the Regional Stabilization Facility in Chad. To do so, it is first necessary to understand how DRR is currently pursued in crisis settings. UNDRR has made some initial headway in this area, with a focus on the scale-up of DRR in humanitarian and crisis contexts, with specific recommendations on how to better integrate DRR into the humanitarian programming cycle (UNDRR, 2020). A collaboration which includes but is not limited to the UN Country Team (UNCT), UNDP, UNDRR, Regional Economic Communities (RECs) and the AUC could make the case to explore what the actioning of these concrete recommendations would look like in the Chadian context. Humanitarian and development partners such as GIZ, AFD or the Swiss Agency for Development and Cooperation (SDC), among others, could be approached to fund such an initiative. Initial findings could be showcased at the upcoming Africa Regional Platform and Ministerial Conference for Disaster Risk Reduction with further insights provided at the Global Platform on Disaster Risk Reduction 2022 as well as the UN Economic and Social Council (ECOSOC) Humanitarian Affairs Segment 2022.

(P3 N-3) Operationalise guidelines for mainstreaming DRR across sectors.

(P3 N-3) Sustained advocacy for greater recognition of disaster risks within sectoral and cross-sectoral policies and programmes is needed. The recommendations of the National Capacity Building Action Plan 2015–2020 (CADRI and République du Tchad, 2015) could be actioned (with adjustments for recent events, primarily COVID-19, as necessary). The DRR Working Group are well placed to devise a plan for acting on these recommendations, supported by UN agencies with experience in DRR. A multi-pronged approach that prioritises most linked sectors and line ministries is needed,

such as the Ministry of Agriculture, and the Ministry of Environment, Water and Fisheries. Regional, continental and international DRR entities should be active in providing pre-prepared materials to support this endeavour; as there are already many advocacy materials that are specifically written for technical audiences to illustrate the added value of DRR to sector-specific goals.

(P3 N-4) Develop/implement development policies, plans and programmes.

(P3 N-4) Although it may be extremely challenging due to the current development conditions in Chad, tools and methodologies such as DRR and climate change adaptation Public Expenditure and Institutional Reviews (PEIR) could be used in order to assess the actual funding flows currently being dedicated to DRR-related activities. PEIR generates data on the nature of investments (budget and expenditure) for DRR and climate change adaptation through national planning processes and for assessing relevant sectoral programmes and investments (UNDRR, 2021). Further consideration could be given to how the application of PEIR would be valuable, and how it could help make the case for broader advocacy for improved budget tracking of disaster- and climate-related funds, and for the need to scale up investment in risk-informed development pathways in light of current and future risk trajectories.

(P3 N-4) An independent review could be conducted into whether any of the recommendations made in the previous assessments on building national capacity have been undertaken, and the barriers, opportunities and entry points for change. For example, the National Capacity Assessment Report (CADRI and République du Tchad, 2014) recommended the active support of various departments in the development of the upcoming national development plans in collaboration with the Ministry of Planning and the Ministry of Finance. A political economy-informed approach would allow a better understanding of effective lines of advocacy, and thus what approach could be taken to raise awareness and understanding of integration of DRR into future sectoral and development policies and plans.

(P3 N-4) Greater visibility for DRR within the Ministry of Planning and the Ministry of Finance could be gained by offering funded placements to key technical and political figures to attend regional and continental events where other ministerial-level delegates are present, such as the upcoming African Regional Platform and Ministerial Conference on Disaster Risk Reduction, which will feed into the Global Platform for Disaster Risk Reduction 2022. Such exposure could draw attention to the topic, and if funding is conditional on the demonstration of commitment towards greater consideration of DRR – perhaps attendance at a DRR sensitisation workshop – this would help to lay the foundations for initial conversations on DRR mainstreaming (although achieving mainstreaming outcomes would require many of the related recommendations in this section and Priority 1, 2 and 4 to also be achieved).

(P3 N-5) Develop DRM guidelines on safety of schools, health facilities and critical infrastructure.

(P3 N-5) A shortlist of existing guidelines on how to enhance the safety of schools, health facilities and critical infrastructure could be compiled and shared with the relevant line ministries, including the Ministry of National Education and Civic Promotion, Ministry of Health, and Ministry of Land Development, Housing Development and Urban Development. For example, the World Health Organization (WHO), in collaboration with the UNCT, could consider undertaking further research to understand the extent to which DRR is considered within the implementation of the Ministry of Health's National Health Development Plan (République du Tchad, 2018b), in writing and in practice

at the national and sub-national levels, to help inform advocacy aimed at the development of the subsequent plan (which should commence in 2022).

(P3 N-7) Strengthen DRR knowledge management and practice.

(P3 N-7) As there are no fixed dedicated government budget lines to provide training and capacity-building on DRR, development programmes implemented by (international) NGOs should continue to include budgetary provision for training for local and national staff across all DRR entities, including but not limited to the DPC, MATCA, DRR Working Group and civil society organisations (CSOs). Training tied to project funding is problematic as it is often received for a short time or as a one-off training, so efforts should be made to fund longer-term courses that can help senior civil servants and national staff employed by Chadian and international entities to scale up their technical understanding of DRR practice (DPC interview, 2021) – ideally through degrees, master’s degrees or PhD courses.

Priority 4: Enhancing disaster preparedness for effective response and to ‘build back better’ in recovery, rehabilitation and reconstruction

Progress and achievements

A technical update and strengthening of the Organization of Immediate Response Plan (*Plan d’Organisation des Secours*, ORSEC) has been conducted with support from technical and financial partners, though it has not yet been politically validated or tested (DPC interview, 2021).

According to the 2016 Humanitarian Response Plan, some 145 partners were mobilised to develop a comprehensive disaster recovery strategy (UN OCHA, 2015). With their support, Chad has created steering documents on disaster response. Since 2018, two multi-risk contingency plans were developed for epidemic and flooding with support from UNICEF (UNICEF, 2019). The aim is for these to be operationalised through provincial plans (DPC interview, 2021). Since 2018, provincial contingency plans have been developed in some areas, including Western Logone, Salamat, Logone Oriental and Lac (DPC interview, 2021).

As part of the provincial contingency plans, the response is intended to be entrusted to Action Committees, which should provide technical support to the design, delivery and monitoring of activities within the plans, and act as a mechanism for consultation and coordination in emergency response situations (see, for example, Comité Provincial d’Action et al., 2020a; 2020b). This research was unable to ascertain the extent to which this happens in practice, nor any empirical examples of this scalar mechanism.

The SISAAP supervises the enactment of the National Response Plan to Food and Nutritional Insecurity on an annual basis (SISAAP, 2015–2020). Food insecurity early warning has been strengthened in recent years by support from partners including the WFP. The system now produces timely warnings and guidance on how to mitigate the negative effects of agroclimatic and socioeconomic shocks on householders (SISAAP interview, 2021).

There are plans to further develop EWS. For example, a hydrometeorological EWS is planned as part of CREWS (Senior Expert Consultation, 2021).

As one of the COVID-19 response measures, the Ministry of Public Health has developed a National Contingency Plan for Preparedness and Response to COVID-19 (*Plan nationale de contingence pour la*

préparation et la riposte à l'épidémie de la maladie a coronavirus COVID-19), which covers the period from 1 March 2020 to 28 February 2021 (Ministère de la Santé Publique de la République du Tchad, 2020). Other reported contingency plans include a good quality government plan for locust infestations (CADRI and République du Tchad, 2014).

Many of the contingency plans were developed following a poor disaster response. Following the chaotic response to the 2012 floods, for example, a contingency plan for floods was developed for the N'Djamena River area by the city council, with technical support from UNDP (CADRI and République du Tchad, 2014).

The Fire Brigade are responsible for intervening in the event of a disaster (Lo and Dionko, 2016) and there is one operational unit in the country, the N'Djamena Fire Rescue Service.

At the provincial and local levels, disaster response operations are mainly carried out by external partners, NGOs and the Red Cross. Established in 1970, the Chadian branch of the Red Cross has been invaluable in supplying emergency relief services to victims of disasters. It also supports the establishment of multi-risk prevention mechanisms and promotes recovery activities at the community level, while focusing on the empowerment of women and youth. Across Chad, 65,000 volunteers, first responders and first aid instructors work for the Red Cross. They help disseminate information or early warning alerts and can be quickly dispatched to assist local communities.

Observations and recommendations

Challenges and barriers

Despite some initial efforts over the assessment period to bolster contingency and response planning, efforts have been slow to materialise. The ORSEC has yet to be politically validated and is currently inactive, and the provisional contingency plans have not yet been enacted (DPC interview, 2021). Except for the EWS and contingency plans managed by the SISAAP, the various EWS and contingency plans mentioned in this report that are hazard-specific or sectoral-based are inoperative; this was the case in 2016 (Lo and Dionko, 2016) and remains true today (Senior Expert Consultation, 2021). Furthermore, to remain relevant, the plans should be updated regularly – particularly in light of the impact of COVID-19 and the subsequent economic downturn – but regular and systematic updating of the plans has not been undertaken (DPC interview, 2021).

Despite the ratification in law of the Fire Brigade (Ordinance 024/PR/2012 of 3 September 2012, ratified by Law 02/PR/2013 of 7 January 2013, see Lo and Dionko, 2016), operationally this is largely non-existent. There is just one active unit in N'Djamena and no routine budgetary allocation of funding for staff or equipment.

Simulation exercises are not conducted on a regular basis and experience has shown that when a disaster occurs, the stipulations of the contingency plans are not enforced; instead, an ad hoc committee is set up to manage the crisis (DPC interview, 2021). The National Capacity Building Action Plan 2015–2020 (CADRI and République du Tchad, 2015) included the recommendation that simulation exercises involving all key responding agencies be conducted, and to simulate the ORSEC Plan and to update it if necessary based on the results. Unfortunately, due to lack of funds, these simulation exercises are not held regularly, if at all.

The DPC is sporadically able to conduct training workshops for staff. These initiatives are largely insufficient to adequately instruct employees of the provincial branches of the DPC on the

fundamentals of DRR. The haphazard practice of regularly assigning staff to other departments also results in trained individuals departing from their position.

Recovery is addressed inconsistently through various projects supported by external partners. Due to a lack of funding, these programmes are often not followed up and so do not produce long-lasting effects. Chad's legislation does not comprehensively address the issue of post-disaster recovery. There are no funds available to conduct recovery and reconstruction programmes following immediate response operations. This is the result of poor governance and inadequate regulatory frameworks on emergency preparedness and recovery. Disaster recovery is only tackled through disparate projects funded by external partners, which often only have short-term effects.

Finally, experts have noted that, in the past, emergency interventions have failed to take into account gender and disabilities (Senior Expert Consultation, 2021). Risk communication strategies are yet to be fully tailored to the gender- and intersectional differences within local communities. Part of the limitation is the lack of disaggregated vulnerability, exposure and impact data (see Priority 1).

Recommendations

(P4 N-1) Strengthen multi-hazard EWS.

(P4 N-1) Given the prevalence of complex and cascading risks within Chad, foundational work is needed to consider the feasibility and sustainability of a multi-hazard EWS. As detailed in the recommendations for P1 N-1 and P1 N-4, this would first require a scoping study to assess the feasibility of making current hazard monitoring systems interoperable, which CREWS and/or the BDR-ARCC programme are well placed to undertake. As the task of creating a nationally coordinated multi-hazard EWS is not currently feasible, pilots could target key areas of threat intersections. For example, to explore the intersection of natural hazard-related disaster risk with pandemic threats and with trends in violent conflict. Such a pilot may help to reveal where existing data sets on exposure and vulnerability could be brought together, the complementarity and points of difference between the theme-specific alerts and risk communication mechanisms, and the diversity of agencies and stakeholders involved in addressing conditions of complex risk. Another point of intersection could be natural hazard-related disaster risk, displacement (caused by disasters and conflict) and economic volatility.

(P4 N-3) Create/strengthen national preparedness and response institutions.

(P4 N-3) To strengthen national disaster preparedness and response institutions, significant upskilling of technical expertise is required in all aspects of DRM. This includes in the fields of operational response, planning logistics, distribution, coordination, simulations, and monitoring and evaluation. To achieve the maturity required, sustained investment in training is needed (see recommendation P3 N-7). This could be aided by offering two-way medium-term (8–18 month) secondments for civil servants and regional and continental experts to help develop technical specialisations in different fields of DRM, while supporting the ongoing work in their respective organisations. Over the longer term, progress in scaling up tertiary educational opportunities will also help in this regard (see recommendation P1 N-7).

(P4 N-4) Develop comprehensive preparedness and response plans.

(P4 N-4) Disaster recovery is virtually non-existent within the country in terms of technical specialists, funding allocation, policies or plans, or mandated agencies to take recovery forward. Given the prevalence of capacity-building plans and contingency plans that are hindered by a range of financial, political and technical limitations, close consideration should be given to how to advance disaster recovery without adopting the normative approach to develop a formal plan. While this may seem counter intuitive, it may be better – at least for a few years – to focus on establishing the foundational experience and empirical evidence base through investments, which can in time serve as useful advocacy points for more systematic and concrete action on disaster recovery within the country. For example, by focusing on taking advantage of opportunities as they arise and/or as politically expedient, disaster recovery goals could be actively embedded into ‘other’ (meaning non-DRR explicit) mechanisms, frameworks and investment plans. This will require more work by advocates, as they will need to determine how to achieve disaster recovery outcomes without using the language of DRR, but instead using discourse more comfortable to the audience – whether this is humanitarian response, livelihood and food security, climate security or even stabilisation and peace.

The UN system with support from UNDP, in collaboration with other key national stakeholders, could consider Chad as a test case for taking this alternative approach to advancing disaster recovery, drawing on partnerships with a multi-disciplinary team of specialists specifically geared towards policy influencing. An experimental two-year programme could be designed to field test whether a more radical approach to advancing DRR without the usual approaches would be impactful. Ongoing efforts in bringing the disaster and climate change aspects to stabilisation efforts in the Lake Chad Basin through UNDP projects – such as the Sahel Resilience Project and the Regional Stabilization Facility of Lake Chad Basin Commission – might offer useful lessons on how such integration could take place in conflict settings.

(P4 N-5) Support response training and simulation exercises.

(P4 N-5) The recommendations made as part of the National Capacity Building Action Plan 2015–2020 (CADRI and République du Tchad, 2015) to conduct simulation exercises involving all key responding agencies and to simulate the ORSEC Plan and update the Plan based on the results, should be actioned. Bilateral partnerships with external funding agencies who have experience of bolstering civil protection capacity in the region, such as AFD, could be targeted. As simulation exercises of this kind are new to many national stakeholders, tailored technical support will be required to ensure the process is genuinely meaningful, by focusing on the quality of interaction between entities, and on sharing learning and encouraging dialogue. A series of pilots could be conducted to develop a simulation approach that is tailored to the Chadian context and the constraints faced by response agencies likely to be involved in any post-disaster situation. Any guidance notes may need to be substantially modified to describe ‘good enough’ processes, to encourage engagement with the exercise and to garner more realistic responses.

(P4 N-6) Facilitate partnerships to mobilise humanitarian funding.

(P4 N-6) There is continued concern that many policies, plans and interventions fail to adequately consider gender and other intersectional specificities and consequently are not appropriately or sensitively addressing preparedness, risk reduction response and recovery needs for many at-risk individuals. To address this, a multi-pronged approach is required that includes: developing a

comprehensive picture of disaggregated local-level disaster risk profiles, priorities and experiences (see P3 N-2); engagement with gender specialists to inform the development of policies, plans and interventions – including, but not limited to, the establishment of a gender sub-group within the DRR Working Group; and active learning as part of simulation exercises to ensure gender sensitivity is embedded into response operations (see recommendation P4 N-5). Technical upskilling will be required within the DRR Working Group, drawing on lessons from gender and inclusion from global experts such as UN Women, the Gender and Disaster Network and UNDP, among others, working closely with and building capacities of women’s organisations and other civil society actors with a strong presence at the sub-national and community level.

Chapter 5: Mali

Reader's guide:

- This section briefly describes the risk profile of Mali before summarising the progress and achievements made, and barriers and constraints, for each of the four priority areas of the African Union Programme of Action (AU PoA) (which mirror the four areas of the Sendai Framework).
- For each of the four priority areas, the summary of progress, challenges and barriers *specifically reflect* the Priority Activities from the AU PoA implementation matrix (see Chapter 1).
- Detailed recommendations are provided for each priority area, linked to the specific AU PoA Priority Activities. The coding system described in Chapter 1 is employed to help readers connect the recommendations to the AU PoA Priority Activities.
- Although specific national recommendations are provided, readers are encouraged to adapt the recommendations to other countries, as appropriate.
- Further details of Mali's progress on disaster recovery are included in Chapter 11.
- Details of the methodology (primary and secondary evidence collection and analysis) that informed this chapter can be found in Chapter 1 and Annex 4.
- Acronyms are written in full the first time they are used within the chapter.
- Chapter bibliographies are included at the end of the report, which are further separated into the general overview for each country followed by the priority areas.

General overview

Mali is a low-income country in West Africa with a population of 19.7 million (World Bank, 2020). Extending across the southern Sahara and the Sahel, Mali is a landlocked and semi-arid country largely situated on a plateau, except for the southern regions. Mali is divided into eight regions plus the capital district of Bamako, each of which has a governor. The country is further subdivided into 49 *cercles* (districts) and 703 communes (UN-Habitat, 2012).

Lack of economic diversification and a high population growth rate of around 3% per year has left Mali's population vulnerable to many challenges (World Bank, 2020). Mali is one of the poorest countries in the world, with an estimated 68% of the population living in multidimensional poverty (UNDP, 2020). While recent estimates suggest that poverty is decreasing, especially in rural areas (from 65% of the population in 2001 to 51% in 2010) (World Bank, 2020), extreme poverty remains a critical issue for the country. Further, poverty is geographically clustered in the densely populated rural south, where over 90% of the population live in poverty (World Bank, n.d.). The average per capita income is approximately US\$750 annually (World Bank, 2020).

Mali's economic growth has fluctuated over the last decade; annual growth in gross domestic product (GDP) was estimated at 4.8% in 2019 (World Bank, n.d.). The country's economy depends heavily on agriculture and natural resource rents that together account for up to 45% of GDP (World Bank, 2020). Relying mainly on production from areas situated along the banks of the Niger River, ranging from Bamako and Mopti to Sikasso, Mali's agricultural sector is the largest source of employment in a country where 80% of jobs are in the informal economy (GFDRR, 2019a; World Bank, 2020).

Mali ranks 184 out of 189 countries and territories on the Human Development Index (UNDP, 2020). The country's underperformance is in part a result of poor health indicators (World Bank, 2020). Progress has been made over the past few decades: the average life expectancy at birth increased by nearly 14 years between 1990 and 2019, while expected years of schooling increased by more than 5 years (World Bank, n.d.). Despite these positive trends, however, the country continues to face acute challenges, including high rates of unemployment (7.2% of the labour force) and a high ratio of vulnerable employment (according to the 2020 Human Development Index).

As Mali strives to boost its economy and reduce poverty, the country continues to grapple with instability and conflict arising from the military coup of 2012. Continued attacks from occupying armed groups jeopardise stability in the northern and central regions of the country (World Bank, n.d.; Kwasi et al., 2019). Since 2014, the World Bank's Fragility, Conflict and Violence (FCV) Group has classified Mali as a high-risk country.

As peace remains fragile, Mali is left vulnerable to economic disruptions that are aggravated by the lack of economic diversification, inadequate infrastructure and governance issues. The Malian economy remains particularly vulnerable to commodity price fluctuations. Although the economic impact of the ongoing COVID-19 pandemic has, so far, remained limited (trade has even increased), Mali risks facing a collapse in the prices of its agricultural exports (World Bank, n.d.).

Risk profile

Mali is exposed to a range of hydrometeorological, environmental, biological and societal challenges. The country ranks 37 out of 181 countries most at risk of these hazards on the World Risk Index (Behlert et al., 2020). The impacts of the combination of extreme vulnerability and high exposure to hydrometeorological, environmental, biological and societal hazards are compounded by a lack of coping and adaptive capacities.

Mali is particularly at risk of drought and recurring floods, as well as political violence and conflict (UN OCHA, 2019). Drought adversely affects the livestock that account for a crucial part of Mali's agriculture, while physical damage from flooding threatens lowland, highland and urban areas (GFDRR, 2019b). On average, 440,000 people are affected by drought and 500,000 by flooding every year (GFDRR, 2019b). Ongoing violent conflict contributes to Mali's position on the Fragile States Index, where the country ranks 16 out of 178 countries ('alert' status), a score that has worsened dramatically since 2012 (Fragile States Index, n.d.).

Hydrometeorological hazard-related disasters

Mali is exposed to a range of hydrometeorological and climate-induced hazards. In addition to ongoing drought and flood, Mali is highly exposed and vulnerable to the adverse effects of climate change. Rising temperatures, significant variability in annual rainfall in the Sahel and the increasing magnitude of extreme weather events are all particularly concerning for the country's development and food security. Water scarcity affects 400,000 people on average every year and results in a loss of agricultural income of approximately US\$10 million annually (Africa Disaster Risk Financing Initiative, 2019).

Mali has experienced sustained episodes of hydrological and agricultural drought in the past 10 years; that is, a deficit of water availability in rivers and reservoirs as well as erratic rainfall (GFDRR, 2019a). For decades, the country has been subject to recurrent drought cycles due to natural atmospheric variability and desertification (République du Mali, 2015; GFDRR, 2019a). Droughts have resulted in livestock and crop losses, particularly in the regions of Mopti, Segou and Sikasso (GFDRR, 2019a). The last major drought, in 2011–2012, triggered a long-lasting food crisis. According

to the Africa Disaster Risk Financing Facility (2019), over 3.5 million people in Mali were faced with food insecurity and almost 1 million needed food assistance in 2017.

Since 2007, Mali has experienced five major flooding events (two in 2007 and one in 2013, 2016 and 2017) (République du Mali, 2019). The river basins of the Senegal River and the Niger River are especially prone to flooding (République du Mali, 2015). In 2013, 37 people died and 25,000 were affected by floods that devastated the capital city of Bamako (République du Mali, 2015). According to the multisectoral assessment carried out by the affected municipalities, unregulated construction on the Niger river beds and inadequate drainage systems partly explain these losses (République du Mali, 2019). Crucial infrastructure has been built in highly exposed areas due to weak flood risk management; for example, an average of 300 education and healthcare facilities are affected by river flooding each year (Africa Disaster Risk Financing Facility, 2019). In total, over 200 municipalities are thought to be at risk of flooding and drought (République du Mali, 2019).

Environmental hazard-related disasters

Mali is at risk of many environmental hazards, including land degradation, soil erosion and pollution.

Expanding agriculture and inadequate land management practices contribute to land degradation and erosion. Rampant deforestation, estimated at 500,000 ha per year, also threatens the country by increasing the exposure to flood risks (République du Mali, 2015). While landslides (a hydrometeorological hazard) can occur in the densely populated areas of the south, the estimated annual impact remains low. However, intense periods of rainfall are likely to have devastating effects, especially in the regions of Bamako and Kayes, where urbanisation and deforestation exacerbate slope instability (GFDRR, 2019b). Mali is also at risk of linked biological hazards such as crop pests. The locust invasion of 2004–2005 was particularly destructive to crops, prompting a strengthening of the National Centre for Locust Control (*Centre national de la lutte contre le criquet pèlerin*) (République du Mali, 2015).

Poor waste management is a growing issue for Mali. According to the United Nations Children's Fund (UNICEF), while access to sanitation facilities and drinking water has improved, there are clear disparities between urban and rural areas with access in rural areas at 70% and further low rates in conflict-affected areas (UNICEF, n.d.). In 2015, it was estimated that sanitation services were only able to process a little over half of Bamako's waste (République du Mali, 2015). Dumped in neighbouring rivers, untreated waste contributes to water and soil pollution in a country where only 22% of the territory has easy access to drinking water (République du Mali; 2019).

Biological hazard-related disasters

Mali's greatest health risk is acute malnutrition (the complex outcome of a range of factors), the incidence of which varies greatly from region to region. The prevalence of food insecurity is 19% in rural areas, compared with 8% in urban areas (FEWS NET et al., 2020). Chronic malnutrition and stunting affected an estimated 13% of the population in 2019 (FEWS NET et al., 2020).

Healthcare provision in Mali remains insufficient, even though, in 2014, total expenditure on health was 6.9% of GDP (WHO, 2014). The country has an average of one doctor for every 10,000 people, although there are large regional disparities (République du Mali, 2015). Positive trends are emerging, including a decline in infant and maternal mortality in the period 2004–2014 (WHO, 2014). As the rate of population growth remains high, attention has been focused on promoting the use of modern contraceptive methods (used by only 4.5% of women with steady sex partners in 2010) (WHO, 2014).

Poor waste collection and management practices create precarious sanitary conditions that can allow disease to spread. In 2014, eight cases of Ebola were reported in the country, resulting in six deaths, which led stakeholders to increase surveillance of viral haemorrhagic fevers (WHO, 2014). Incidences of vaccine-preventable diseases such as measles, meningitis, rotavirus diarrhoea, pneumonia and cervical cancer remain high (OMS Bureau du Mali, 2018). The Malian population remains especially vulnerable to communicable diseases such as malaria, tuberculosis and HIV/AIDS, with a significant proportion of patients going untreated (69 tuberculosis patients for every 100,000 inhabitants, for example) (WHO, 2014). Urbanisation, sedentary lifestyles and changes in diet have led to an increase in previously rare non-communicable diseases in the country (such as diabetes, cardiovascular diseases, sickle-cell anaemia and some cancers) (WHO, 2014; 2018). Meanwhile, tropical diseases such as malaria continue to pose significant health risks to the Malian population (WHO, 2014).

The COVID-19 pandemic has strained Mali's health system, which was inadequately prepared for the high number of patients. In April 2020, the country had just 56 ventilators; health professionals went on strike in mid-December to protest about the lack of resources (Diallo, 2020). As of 25 August 2021, the country had recorded 14,779 confirmed cases of COVID-19 and 536 deaths (WHO, 2021). By 23 August 2021, 259,719 vaccine doses had been administered (WHO, 2021). Containing the virus through social distancing and partial lockdown measures has been especially challenging (Diallo, 2020).

Societal hazard-related disasters

Security has been an ongoing challenge for Mali since the military coup of 2012 and the subsequent occupation of the north of the country by militias (World Bank, n.d.; Kwasi et al., 2019). Despite the peace agreement signed in 2015, attacks in the region are ongoing (World Bank, n.d.). The disruption caused by political violence and conflict has resulted in a large number of internally displaced persons (IDPs) and has contributed to food shortages among vulnerable populations (EC, 2020). Over 287,000 people were forced to flee their homes between January and August 2020 alone (EC, 2020). Regional instability also contributes to the precarious situation in Mali, which hosts over 43,700 refugees from neighbouring Burkina Faso and Niger (EC, 2020). Meanwhile, almost 140,000 Malians have left the country. The current situation has exacerbated the difficulties of accessing basic public services (Kwasi et al., 2019).

Priority 1: Understanding disaster risk

Progress and achievements

Mali's ability to assess, profile and monitor disaster risks is slowly improving. Priority 1 of the AU PoA finds that, while not all meteorological forecasts currently reach the National Centre for Emergency Management and the National Disaster Risk Reduction (DRR) Platform, there has been strengthened collaboration in recent years between the meteorological (Met) services, water management authorities and the early warning system (EWS) (*Système d'Alerte Précoce, SAP*) (National Centre for Emergency Operations interview, 2020). The National DRR Platform facilitated this collaboration, alongside the creation of the National Centre for Emergency Management with the World Bank-led Hydromet Project (National Centre for Emergency Operations interview, 2020).

The Hydromet project is helping to strengthen end-to-end connectivity in hydrometeorological information, forecasting and EWS through a US\$31 million investment by the World Bank, the Green Climate Fund (GCF) and the World Meteorological Organisation (WMO). Through this partnership, the Government of Mali aims to establish a functioning system to systematically channel data and

alerts to the National Centre for Emergency Operations (*Centre National des Opérations d'Urgence, CNOU*), established in 2017.

The key national institutions in charge of forecasting, monitoring and early warning have invested considerable resources in upgrading their capacities and have diversified their partner base in recent years. Supported by the Economic Community of West African States (ECOWAS), WMO, the World Bank, United States Agency for International Development (USAID), United Nations Development Programme (UNDP), Climate Risk and Early Warning Systems (CREWS) and others, Mali Meteo (the Malian meteorological agency) has substantially reinforced its technical and technological capacities to forecast climate-related hazards and communicate with disaster management actors and the public. For example, Mali Meteo and USAID are working to diversify Mali Meteo's funding sources, as well as to improve climate data and rainfall prediction capacity. Improved prediction capacity is then being operationalised through the development of decision-making tools to support farmers to access and utilise agrometeorological information. In another example, meteorological forecasting services are being adapted to better reflect end-user needs, with the support of the National Framework for Adaptation to Climate Change, in partnership with UNDP and Global Environment Facility (GEF) funding.

The National Directorate for Water Resources, which is responsible for water resource management and regulation, is collaborating with the Niger Basin Authority to upgrade its hydrological equipment and improve its cooperation with Mali Meteo on flood forecasting, with support from the French Development Agency (*Agence Française de Développement, AFD*), UNDP and other partners. Further efforts are underway to strengthen the hardware infrastructure for hazard monitoring. Weather and hydrological equipment have been reinforced through a collaboration between the National Directorate of Hydraulics, Mali Meteo and UNDP–GEF (Pinnars, 2020).

Currently, the most cross-sectorial mechanism is the SAP, which is centralising meteorological and civil society-produced data to monitor food production and food availability and to identify risks and vulnerable populations. The SAP is managed by the Food Security Commission, under the President of the Republic. With the support of the European Union (EU), the Malian SAP will soon be part of a regional system for food security, the ECOWAS Agriculture Regional Information System, hosted by the Permanent Interstate Committee for Drought Control in the Sahel (*Comité permanent inter-État de lutte contre la sécheresse au Sahel, CILSS*).

Other recent progress includes the Sahel Resilience Project supporting the Government of Mali in damage and loss accounting systems, updating national risk information e-libraries, preliminary work to inform damage and loss databases and national risk registries and disaster observatories (UNDP email exchange, 2021). The Civil Protection Directorate was also supported with information technology (IT) equipment (UNDP email exchange, 2021). Moreover in 2019/2010, Mali was one of 11 countries that worked with the Africa Risk Capacity (ARC) and World Food Programme (WFP) to develop a national risk profile including vulnerability assessments (ARC, 2019; UNDP email exchange, 2021).

In 2019, the first rapid post-disaster needs assessment (PDNA) was conducted by the Ministry of Security and Civil Protection and international partners in response to the flooding that affected Bamako (République du Mali, 2019a).

In terms of integrating DRR into education and training, according to the AUC biennial report which tracks progress on countries having done so, among other things, it was reported up to 2018 that Mali had made ‘comprehensive achievement’ in this regard; though no further country details are provided (AUC, 2020). Furthermore, in 2021, the Peacekeeping School (*Ecole de Maintien de la Paix*) will launch a Disaster Risk Management (DRM) master’s degree (Civil Protection interview, 2020). The Ministry of Education is hoping to scale up a pilot programme on education on climate and flood risk to nationwide implementation (Pinnars, 2020).

Observations and recommendations

Challenges and limitations

Mali does not have a functioning disaster loss and impact database, as the projects supporting the DesInventar database (a free, open-source disaster information management system) were discontinued (WMO interview, 2020). This will be a major bottleneck in the development of a fully functional risk-informed decision-making system for DRR programmes in Mali, and for its development investments more generally. The establishment of a national database on risks and disaster impact was among the key recommendations of the 2019 Flood Recovery Framework (République du Mali, 2019b).

The country has not reported on the Sendia Framework Monitor as yet, and limited information is available on current plans to establish such capacity.

Information on vulnerability and capacities – two fundamental components of understanding disaster risk – is severely lacking, particularly on the gendered and intersectional dimensions of disaster risk. As noted by the mid-term evaluation of the UNDP/GEF ‘Flood hazard and climate risk management to secure lives and assets in Mali’ (PGRCI) project, gender analysis is weak and, where it exists, is narrowly focused on women’s reproductive roles (Pinnars, 2020).

Mali does not yet have a fully functioning multi-hazard risk monitoring and EWS. Disaster management authorities have access to individual hazard-specific forecasts and projections, but these are not comprehensively linked to a central EWS. A related issue is the lack of a national DRM information or communication system, although this is among the priorities of the Hydromet Project, launched in late 2019.

The lack of hydrological modelling and flood forecasting further impedes the coverage and quality of the disaster management system. Part of the challenge is in ineffective hazard monitoring infrastructure. For example, only around a third (103 of 140 stations) of the National Directorate for Water Resource’s hydrological stations are fully functioning (World Bank, 2019a). Other bottlenecks are institutional; for example, the lack of data exchange between the Directorate and Mali Meteo (World Bank, 2019a).

DRR is not yet integrated into the school curriculum. Further research is needed to better ascertain the degree of Mali’s current investments in the generation of DRR knowledge and innovation.

At the sub-national level, Watch Committees (*Comités de Veille ou de Crises*) have limited technical and financial resources, leaving them unable to effectively contribute to national risk monitoring and warning systems. Communities are rarely sensitised to risks and disaster management issues, and there is limited evidence of opportunities for communities to actively engage in the design and implementation of early warning mechanisms. The technical language used in climate and weather

forecast information is reportedly too complex for journalists to accurately interpret and repurpose for end users. Furthermore, in many remote areas, intermittent access to power and internet inhibits the viability of receiving regular updates and early warnings via television and radio (Pinner, 2020).

Recommendations

(P1 N-1) Mobilise resources for profiling, monitoring and assessing disaster risks.

(P1 N-1) Future investment of financial and technical resources that aim to improve Mali's capability to profile, monitor and assess disaster risks could track the progress, challenges and opportunities stemming from some of the major projects being delivered in Mali, such as the Hydromet Project, to ensure continuity and complementarity with ongoing efforts. This is particularly relevant for any external actors aiming to support the capacity of Mali Meteo, the National Directorate for Hydrology, Civil Protection and the CNOU, all of which are expected to be enhanced through the investment. Since its launch in December 2019, the Hydromet Project has largely been operating under COVID-19 restrictions. Future monitoring and evaluation of progress and outcomes will be important in informing the design of any future investments on understanding disaster risk in the country.

(P 1 N-1) The Food Security Commission could be supported to address the capacity gaps identified by an assessment conducted by the EU. Specifically, future investments may want to consider focusing on reinforcing SAP's vulnerability assessment system, its decentralised capacities and its data collection tools, and boosting its workforce in a sustainable way. This could be achieved through a collaborative effort with existing and potential food security-focused partners, including donors and operational agencies.

(P1 N-2) Establish/strengthen technical structures for risk surveillance and assessment.

(P1 N-2) United Nations (UN) agencies could consider reinforcing the gender empowerment dimension of existing projects, such as the UNDP/GEF PGRCI project. As an example, the PGRCI project could expand its analytical approach to the gendered dimension of early warning and disaster management interventions, and it could use the results to incentivise greater investment in the vulnerabilities, exposure and capacities of women and other intersectional dimensions of risk, to deepen the national understanding of disaster risk.

(P1 N-2) Decision-makers responsible for the design and delivery of disaster and climate funds would be well placed to explore the lessons learned by the Building Resilience and Adaptation to Climate Extremes and Disasters Programme (BRACED), a UK government-funded resilience programme, in relation to public investments made by government-led climate funds in Mali. The findings of BRACED indicate that climate-focused investments have been made in consultation with local investment management committees that, significantly, include women and youth funds (Halle and Doumbia, 2020). While limited in number, these examples offer hope for strengthening the meaningful inclusion of women and youth in decision-making processes.

(P1 N-2) The National DRR Platform could consider working with the Ministry for the Promotion of Women, Children and Families, alongside gender specialists from UN agencies, (international) non-governmental organisation (I/NGOs) and civil society organisations (CSOs), to establish a sub-group on gender and inclusion. This group could provide a range of functions, including advocating for

greater intersectional analysis in risk profiling and monitoring, analysis of disaster risk and impacts by gender and other social sub-categories, and the development of gender-sensitive early warning messaging and outreach.

(P1 N-3) Harmonise risk and warning definitions and concepts.

(P1 N-3) A national effort is needed to harmonise risk information, including, for example, the development of a set of harmonised definitions, standards and procedures to enable data collection and reporting to be tracked on interoperable systems. The development of a national framework for risk analysis was among the key recommendations of the PDNA 2019 report (République du Mali, 2019a). Entities with experience in this field such as the World Bank, African Development Bank (AfDB), EU and UNDP, among others, could engage with national authorities, including the CNOU, to develop a harmonised set of standards and procedures to transform risk projections into early warnings and predictable early action.

(P1 N-4) Establish/strengthen DRR databases.

(P1 N-4) As per the recommendations of the 2019 Recovery Framework (République du Mali, 2019b), national authorities should be supported to develop a disaster loss and impact database. UNDP would be well placed for this, given their current collaboration with the Government of Mali to do just this under the Sahel Resilience Project. The database should be connected to the national DRM information system being developed with the support of the Hydromet Project, among others. Readily available disaster loss and impacts data would be extremely useful: to inform progress on the Sendai Framework for Disaster Risk Reduction 2015–2030 and the AU PoA, and to improve the viability of pursuing risk-informed development trajectories, and more.

(P1 N-5) Establish DRM information and communication systems.

(P1 N-5) The Hydromet Project's ambition to establish a national DRM information system could be formally supported by the government institutions responsible for hazard and disaster risk; equally, any system needs to be both fully embedded and cognisant of the limitations of national capacity to manage such a system. Disaster risk governance considerations of national ownership and long-term sustainability should be prioritised over technical prowess.

(P1 N-7) Integrate DRR in education and training.

(P1 N-7) The Ministry of Education should be encouraged and supported by stakeholders engaged in the National DRR Platform to roll out its trial programme of integrating education on climate and flood risk nationwide. If successful, the United Nations Office for Disaster Risk Reduction (UNDRR) would be well placed to provide pre-prepared materials – drawn from the plethora of international educational material on integrating DRR into school curricula – that can be adapted to the Malian context and new content provided to the Ministry of Education regularly and in a timely manner.

(P1 N-7) UN agencies such as UNICEF could consider supporting the Ministry of Education in integrating DRR into the school curriculum, prioritising the most at-risk geographical areas and communities. Successful experiences and tools can be drawn from other countries in the region, with the possibility of offering peer-support missions or the adaptation of existing educational products to the local context.

(P1 N-8) Strengthen technical and scientific capacity to promote innovation.

(P1 N-8) An assessment of the capacity of Mali's academic institutions and research centres could be conducted to: (1) generate DRR knowledge and (2) promote investments in innovation and technology to address the most urgent DRR and DRM challenges, for example in disaster-resilient infrastructure or shock-responsive microfinance. This could then be used to identify opportunities for regional cooperation for DRR research and development, devising an educational investment plan to help guide discussions between higher education partners and potential funders.

(P1 N-9) Mobilise awareness-raising and advocacy initiatives.

(P1 N-9) UNICEF, the Malian Red Cross and other partners heavily involved in communication for development may wish to assess how mass communication products on risk reach are understood and used by final users, especially in rural areas. These organisations could extend their engagement with national risk-monitoring entities to aid the simplification of communication products, and to help systematise the broad distribution of messages through different channels, including traditional leaders, communicators and community radios. These organisations could also seek complementarity with the UNDP/GEF PGRCI project implemented by the Environment and Sustainable Development Agency, which is already investing in improving national capacities to disseminate user-friendly weather and flood hazard information through mass media.

(P1 N-9) There are numerous examples of journalists providing peer support on technical areas such as disaster and climate risk. For example, the BRACED programme linked journalists from Thomson Reuters Foundation with journalists from across Eastern and Western Africa, providing training on how to accurately interpret and report on climate and weather events. The same methodology could be applied by media outlets wishing to link with established networks of African journalists, such as the Disaster Risk Reduction Association of Journalists (DIRAJ).

(P1 N-10) Integrate and safeguard local DRM knowledge.

(P1 N-10) Given the lack of operational research on community engagement for DRR, research should be conducted to assess national progress in community empowerment for risk assessment, monitoring and analysis to identify possible entry points for investment. The aim should be to complement sub-component 1.3 of the Hydromet Project, which aims to establish a 'community early warning system and emergency response mechanisms to facilitate local monitoring and decision-making' in collaboration with the Permanent Interstate Committee for Drought Control in the Sahel/Regional Training and Application Centre for Agrometeorology and Hydrology (CILSS/AGRHYMET) (World Bank, 2019a). The proposed research should identify self-reliance tactics employed by communities with experience in withstanding disasters and crises over decades; assess the viability of these tactics for scale-up and replication; and establish which formal disaster risk governance and support systems could strengthen pre-existing local systems. This information will help to ground decisions on future investments in the design and delivery of risk analysis and EWS, preparedness and response that are based on real local capacities (UNICEF email exchange, 2021).

Priority 2: Strengthening disaster risk governance to manage disaster risk

Progress and achievements

Most national development policies include, to a certain extent, plans for resilience-building and climate change adaptation. The leading development framework is the Strategic Framework for

Economic Recovery and Sustainable Development (CREDD) 2019–2023, which includes specific objectives around ‘reinforcing capacities for disaster prevention and disaster management’ and ‘reinforcing resilience to climate change’ (Ministère de l’Economie et des Finances et al., 2019).

The current National Disaster Risk Reduction Strategy covers 2015–2019 (République du Mali, 2016a). A subsequent strategy development process is planned for 2021 (National Centre for Emergency Operations interview, 2021). A Capacity Development Action Plan (2016–2019) is being used to strengthen Mali’s disaster risk governance architecture (Senior Expert Consultation, 2021). Many of the Action Plan activities have been implemented – including, notably, by ratifying a number of legal instruments related to the disaster management institutional set-up. For example, in recent years, Mali has ratified a variety of legal instruments to establish and regulate its disaster management system. Significantly, this includes the decrees establishing the National DRR Platform (Decree 2016-0974/P-RM, see République du Mali, 2016b), organising immediate relief plans and establishing the operating procedures of an inter-ministerial committee for crisis and disaster management (Decree 2017-0798/PM-RM, see République du Mali, 2017), Organization of Immediate Response Plans (*Organisation des Secours, ORSEC*) (Decree 2015-0889/P-RM, see République du Mali, 2015), and creation of relief services (Ordinance 2019-1245/MSPC/-SG, see République du Mali, 2019c). Several new coordinating entities were created by law: at the highest level of authority is the Inter-Ministerial Committee for Emergency Management with its operational arm of Civil Protection, the National Emergency Operations Centre (République du Mali, 2019d). The Operations Command Centre for Emergency Management (*Centre de Commandement des Opérations et de Gestion de Crise*) was also created to focus on the coordination of security operations (police, the national guard and the *gendarmerie*) (République du Mali, 2019d).

With the CNOU secretariat, the National DRR Platform is active and supported by a mandate that is well defined in national legislation. It is viewed as a dynamic entity, bringing together national and international actors on disaster risk, including inter-ministerial stakeholders (DGCP interview, 2021). Recently, the National DRR Platform supported the Ministry of Health in the response to the COVID-19 crisis.

At the sub-national level, the CNOU is represented in every region and coordinated by Civil Protection. Considering their limited resources, the regional coordination mechanisms have a good response coordination capacity. For example, Civil Protection is managing the pre-positioning of UNICEF non-food item stocks in highly at-risk regions (Senior Expert Consultation, 2021). Also at the sub-national level, Watch Committees adopt an emergency coordination role, primarily in times of crisis, despite very limited technical, financial and logistical resources.

Finally, in recent years, external funding has supported environmental conservation and ecosystem-based DRR (Ola and Benjamin, 2019). In addition, climate change adaptation policies and strategies have emerged that centre around sustainability, climate change adaptation and biodiversity – a comprehensive repository of these policies is included in the 2021–2025 Drought National Plan (Diarra, 2020).

Observations and recommendations

Challenges and limitations

Mainstreaming DRR into development policies is a challenging endeavour for the reputable National DRR Platform, compounded by limited evidence for effective systems and regulations to support this

process. The Platform is heavily reliant on external funding, which could limit its long-term sustainability. There are also technical gaps in the institutional capacity of the Platform, in areas such as designing and delivering a disaster recovery strategy and framework for the country. There is therefore a legislative and institutional grey zone around the prevention, mitigation and recovery dimensions of DRR management.

As one of the poorest countries in the world, Mali lacks the financial resources to implement sound DRR investments, which affects the scope of potential action of key institutions, especially at the sub-national level. In addition to this key barrier, research indicates a potential institutional barrier to DRR. The current National Platform primarily fills a disaster management coordination role – and it is well placed to do so. Some observers argue that the National Platform should focus on development planning; however, that addresses the prevention and recovery components of the Sendai Framework. Such an entity would ideally combine accountabilities for climate change adaptation and DRR and be placed under the direct authority of the Prime Minister. This would equip the Platform with the strong political backing and appropriate authority needed to direct development investments towards the needs of the populations most exposed to the impacts of climate change and natural hazard-related disasters.

There are several weaknesses and gaps in the current disaster risk governance arrangements that inhibit effective risk management and reduction. This includes, for example, the need to better connect early warning mechanisms to an operational chain of command for contingency and response, a requirement the World Bank (2019a) has also highlighted.

There are significant gaps in the enforcement of national regulations designed to help reduce disaster risk. The 2019 Bamako PDNA, for example, highlighted that national land-use planning policies and codes, including on urban planning and sanitation, are rarely enforced due to financial and technical limitations (République du Mali, 2019a).

In 2015, the Directorate of Planning and Development reported that sector and inter-sector development plans did not take DRR into consideration (CADRI, 2015). Sector-specific guidance on land-use planning, safety of schools and hospitals exists, but needs to be revised, communicated and enforced. The creation of a national mapping system for risks and vulnerabilities is crucial to effectively leverage synergies among poverty reduction, social protection and climate adaptation investments.

While the institutional capacity to mainstream DRR is low, climate change adaptation is backed by dynamic institutions and financial partners. All assessments in this field recommend institutional harmonisation of these two areas, with the potential to create an integrated entity under the Prime Minister.

Finally, the slow pace of decentralisation limits the allocation of adequate resources to foster community-based DRR and climate adaptation mechanisms. Moreover, it is reported that local governments have not adopted local DRR strategies and that their disaster management capacities are limited and essentially confined to a reactive mode, due to limited financial and technical capacities.

Recommendations

(P2 N-1) Formulate gender-responsive DRR policies and plans.

(P2 N-1) A sub-group of champions within the National DRR Platform (a proposal above), together with the Ministry for the Promotion of Women, Children and Families and specialist gender-focused agencies such as UN Women and the international Gender and Disaster Network, could review Mali's current legislative and policy environment on gender inclusion. This could inform the creation of a strategic plan of engagement to ensure that more robust advocacy for the inclusion of gender and intersectional considerations are called for in policy review processes – including specifically the upcoming new strategy development process for the subsequent National Disaster Risk Reduction Strategy. UNDRR could support these efforts as they have access to existing examples of how gender has been meaningfully included in other DRR strategies, which can then be adapted for the Malian context. The inclusion of the need to mainstream gender into national policies in the CREDD 2019–2023 (Ministère de l'Économie et des Finances et al., 2019) supports this ambition.

(P2 N-1) As the development of the new National Disaster Risk Reduction Strategy is planned for 2021, national authorities, UN agencies, the Malian Red Cross and I/NGOs could work together to ensure meaningful participation of CSOs, women's associations, local authorities, private sector representatives and Members of Parliament in the process. The National Disaster Risk Reduction Strategy should include a clear definition of resilience, with indicators to measure community resilience and specific and measurable programmes that contribute to the objectives of the strategy.

(P2 N-1) The Ministry for the Promotion of Women, Children and Families together with specialist social inclusion experts, for example from UN Women, UNICEF and other partners, could support the government in exploring opportunities to establish or reinforce a sustainable national mechanism that promotes gender and social inclusion throughout the lifecycle of the national development programmes, with special focus on DRR, climate change adaptation and resilience. This new entity should produce standards and outcome-orientated targets around gender empowerment. These standards could be based on the United Nations Office for the Coordination of Humanitarian Affairs' (UN OCHA) Gender Marker. GenCap could provide direct technical support to identify, strengthen and launch the work of this new mechanism given their experience in this field.

(P2 N-2) Operationalise institutional frameworks; (P2 N-6) Align climate and DRR coordination mechanisms.

(P2 N-2 and P2 N-6) Drawing on the recommendation of the 2019 Flood Recovery Framework (République du Mali, 2019b), a cost-benefit assessment could be undertaken on the feasibility and added-value of more strongly integrating the mandate, implementation and financing, and monitoring and accountability mechanisms of the National DRR Platform and the National Committee for Climate Change institutional architecture. Such an assessment could use insights from the forthcoming African Union Commission (AUC) research on the legislative and policy landscape of DRR, in combination with original empirical research focused on Mali. The findings should be considered by government partners, UN agencies and the National Platform to help identify the best institutional set-up for DRR; and by AUC and ECOWAS as they provide recommendations to governments on the opportune institutional set-up and best practice for linking action on disaster and climate risk.

(P2 N-2 and P2 N-6) Should the climate and disaster institutional architecture remain separate, it would be valuable to conduct an assessment of the capacities of the National DRR Platform to strengthen its meaningful involvement in the development of national climate change and

development plans, and to identify sustainable ways to upgrade such capacity. This will need to be supported by a strategic engagement plan that guides the National DRR Platform stakeholders through the development process of those plans, to allow meaningful advocacy for greater commitment to risk-informed decision-making. UN agencies such as UNDRR, UNDP and the United Nations Environment Programme (UNEP) would be well placed to support this recommendation given their expertise in similar processes elsewhere across the continent.

(P2 N-4) Formulate/reinforce legal and regulatory environment for DRR.

(P2 N-4) The failure to enforce land-use and urban planning is common in many Africa states. Working with the AUC and UN agencies such as UNDP, UN-Habitat and UNDRR, ECOWAS should conduct a political economy assessment to unearth the barriers, challenges, opportunities and incentives for enforcement, which should reveal deeper insights than the commonplace limitations routinely cited (such as lack of financial capacity to enforce regulations). Armed with this insight, a Sahel-wide initiative should be launched to tackle this challenge in urban and peri-urban areas. Technical support from banks and donors such as the AfDB, World Bank and the Global Facility for Disaster Reduction and Recovery (GFDRR) would also be helpful here, given their role in the global World Reconstruction Conferences and related investments in infrastructure across the region.

(P2 N-4) Formulate/reinforce legal and regulatory environment for DRR; (P2 N-5) Enhance awareness and compliance of public regulation measures on DRR.

(P2 N-4 and P2 N-5) Banks, and multilateral and bilateral donors should consider engaging with the Ministry of Finance and other relevant ministries to advocate for and support further decentralisation of resources that can be sustainably allocated to Watch Committees in high-risk areas (initially) to scale up their DRR coordination capacities. Over the longer term, extending their remit and technical capability from response to risk reduction and mitigation would allow deeper engagement of Watch Committees (or a more developmental version of them) to support compliance with and enforcement of public regulation measures for DRR.

(P2 SN-2) Establish, manage and enhance community-based DRR/M

(P2 SN-2) The United Nations Country Team (UNCT) and relevant INGOs should consider the promising findings of the Sahel Alliance Flagship Konna Project (World Bank, 2019b) in designing meaningful DRR community empowerment programmes. The learning process could include an outreach strategy that enables communities to share their self-reliance strategies and specific needs, so that new programmes leverage indigenous knowledge, rather than proposing a standardised approach to resilience-building (UNICEF email exchange, 2021).

Priority 3: Investing in DRR for resilience

Progress and achievements

The 2019–2023 Framework for Economic Recovery and Sustainable Development (Ministère de l'Économie et des Finances et al., 2019) – the backbone of Mali's current development planning – includes a strategic objective on environmental protection and resilience-building, and specific objectives on gender equity and child rights, and on social protection. The result is an overarching policy directive that provides for investments in disaster resilience.

The 2016–2019 National DRR Capacity Development Plan was partially implemented (Senior Expert Consultation, 2021). The Government of Mali has engaged in an impressive institutional reform of its

disaster management system (detailed in Priority 2), with significant financial support from the World Bank.

At the 2015 baseline, Mali's social safety net programmes were considered ineffective, narrowly focused on food support and not necessarily reaching the most vulnerable (World Bank, 2015). Cash transfer, public works and asset transfer programmes were also very limited in scale (World Bank, 2015). While some of these concerns remain, social protection investments have started to yield encouraging results. The safety net initiative *Jigisemejiri*, funded by the World Bank, has reduced food insecurity by 27% among its beneficiaries in recent years and increased households' livestock investments by 11% (World Bank, 2019b). UNICEF data on the programme indicate that over 460,000 households have been reached (UNICEF email exchange, 2021).

The EU-backed social protection humanitarian initiatives in conflict-affected areas have allowed the government and its partners to partly overcome geographical barriers to provide much-needed social services in these difficult operating environments. Private and public microfinance initiatives have expanded in recent years. One of the main microfinance entities in Mali, *Kafo Juginew*, received US\$11 million of financial support from the European Investment Bank (EIB). However, further efforts to institutionalise and guide microfinance towards the most vulnerable are needed.

Should positive progress continue, significant results are possible. The World Bank estimates that 'less than 2 percent of GDP in perfectly targeted transfers in combination with 2 percent growth per capita (of the poorest households) would be sufficient to eliminate poverty in Mali by 2030' (World Bank, 2019b: 34).

At the 2015 baseline, Mali hoped to join the ARC and was seeking financial partners to fund the premium (CADRI, 2015). An operations plan had been prepared to secure ARC membership by the Food Security Commission (Office of the President of the Republic, 2015). The current assessment finds that Mali has been part of the ARC risk pool since 2015, except for the 2018/2019 agricultural season (ARC, 2021). As Mali has kept the food security situation below the threshold of the response mechanism, the country has not yet benefited from ARC pay-outs – although their membership continues, with Germany funding Mali's premiums in 2020 (KfW, 2020).

Observations and recommendations

Challenges and limitations

No DRR investment plan has yet been identified based on primary and secondary research, and Mali has not officially assessed the implementation of the 2015–2019 Disaster Risk Reduction Plan of Action. Further, the lack of specific guidelines on DRR investment in other sectors and departments has likely inhibited internal advocacy for integrating aspects of DRM with allocated budget in a broad set of sectoral plans. The absence of a coordinating entity has clear repercussions for the funding of DRR through economic recovery and sustainable development policies and plans: development investments are not risk-informed, risk mitigation is lacking, and risk creation remains a concern.

Under Priority 3, the AU PoA includes the aim to develop risk management and resilience guidelines on school, health facilities and critical infrastructure. This research did not find evidence that sufficient guidelines were in place or enforced. The 2019 rapid PDNA highlighted that schools in the district of Bamako were highly exposed to flooding, as were numerous health facilities (République du Mali, 2019a). In Bamako, for example, an estimated 22% of schools and 24% of health facilities are exposed to flood risks (République du Mali, 2019a).

The assessment did not find evidence of any significant progress in establishing routine financing for DRR at the sub-national level. Further efforts need to be directed towards financing and developing local and decentralised capacities for DRR and strengthening coordination and synergies with climate change adaptation institutions and programmes. The development of national mapping of risks and vulnerability will guide a data-based allocation of available financial resources to the most vulnerable areas of the country and stimulate strategic use of development funding to effectively enhance community resilience.

Recommendations

(P3 N-1) Design/operationalise national DRR investment plans.

(P3 N-1) Mali's core donors could work together to support the government's DRM entities to devise a DRR investment plan that aims to not only harmonise current investments, ensuring better targeting on the basis of improved vulnerability and risk assessments (as recommended in Priority 1), but also to secure financial sustainability of risk management systems in the long term. This may include, for example, multi-year, possibly even decades-long, financial commitments to enable the gradual transition of Mali's risk financing from external input-based to nationally funded. This progression will only be possible in the context of broader economic development, so a long-term DRR investment plan is necessary.

(P3 N-1) A deeper understanding of the current disaster resilience financing and investment portfolio in Mali is needed. State financial commitments to DRR and climate change adaptation need to be assessed: those directly labelled as DRR and climate change adaptation, and those that contribute towards climate and disaster resilience outcomes. An assessment could include investments that contribute to Mali's 2019–2023 Framework for Economic Recovery and Sustainable Development (CREDD, Ministère de l'Économie et des Finances et al., 2019) under the strategic objective of focusing on environmental protection, resilience-building and social protection. Other important policies and strategies relevant to an assessment of current DRR finance are identified in the CREDD under each strategic area (Ministère de l'Économie et des Finances et al., 2019). This information could feed into the development of a DRR investment plan and be used to actively source further external finance through climate investments, including for channelling to the sub-national level.

(P3 N-2) Develop/strengthen national disaster risk financing mechanisms.

(P3 N-2) The recommendations from the EU study on the adaptation of social protection programmes to conflict contexts should be acknowledged. The study recommends the institutionalisation of social protection standards by adapting national service provision schemes to the specific conflict-affected areas (Smith and Kuelhke, 2019). The practical recommendations included in this case study deserve special attention, as they aim to apply fundamental humanitarian principles and best practices to the design and adaptation of national development programmes to bridge the humanitarian–development–peace nexus. Similarly, action research to document the changes, impacts and replicability of lessons to other contexts in the Sahel would be worthwhile.

(P3 N-2) In the short and medium term, external overseas development assistance (ODA), such as that provided by Germany to fund the ARC premiums, will need to continue.

(P3 N-4) Develop/implement development policies, plans and programmes.

(P3 N-4) Specific attention should be given to how DRR can be integrated into sectoral and departmental plans and budgets in a severely constrained financial environment. The standard messaging associated with the added value and cost-benefit of mainstreaming DRR is not having the desired impact. Further political economy research is needed to fully understand the possible incentives to DRR investment in ways that are relevant to the government decision-makers. Given their experience in this area, the GFDRR would be well placed to fund such research, in collaboration with an independent research entity to undertake the primary data collection, synthesis and write-up. The findings would be a useful input to the development of a DRR investment plan to ground the ambition and ensure it is realistic (see above).

(P3 N-4) Further research is required on how the legislative and policy environment could bolster the expansion and harmonisation of microfinance to target at-risk or crisis-hit areas, and could point to promising capacity development investments. Such research would need to ascertain the extent to which microfinance is currently available in high-risk areas, the barriers to investment and how these barriers could be overcome. Given its focus on microfinance and social safety nets, the World Bank would be an obvious partner for this research project in collaboration with national partners. The findings would be valuable at the regional and global scale.

(P3 N-5) Develop DRM guidelines on safety of schools, health facilities and critical infrastructure.

(P3 N-5) The National DRR Platform would be well placed to work with relevant government departments to map critical infrastructure, health facilities and schools, in line with the 2019 PDNA recommendation (République du Mali, 2019a). The findings should then inform the development of an investment plan to retrofit or build new facilities to an acceptable standard, in line with new guidelines (see below).

(P3 N-5) The Ministry of Education in collaboration with experienced UN agencies such as UNDP, UNEP, WHO and UNICEF, should consider assessing the availability, relevance, application and enforcement of risk management and resilience guidelines on safety of schools, health facilities and critical infrastructure to identify potential targets for investment to leverage change. This would directly respond to the exposure risks identified for schools and health facilities by the 2019 PDNA. The assessment could be part of a broader national campaign and ambition to enhance safety of schools, health facilities and other critical infrastructure. For efficiency, lessons, tools and approaches can be adapted for the West African context from existing materials developed for other regions by UNDRR.

(P3 N-6) Promote and fund community-based DRR.

(P3 N-6) As part of the development of the DRR investment plan, specific consideration should be given to mechanisms for financing DRR at the sub-national level, both through formal governance arrangements and via community-based outreach, including through CSOs, the Malian Red Cross and non-governmental entities. Lessons on decentralising climate finance – from BRACED, for example (see Quevedo et al., 2019) – may offer important insights for the Malian context.

(P3 N-7) Strengthen DRR knowledge management and practice.

(P3 N-7) The availability of higher-level and professional education in DRR/DRM could be examined to identify investment opportunities and potential national and international partnerships with specialised academic institutions such as the West African Science Service Centre on Climate Change

and Adapted Land Use (WASCAL) or other AU-sponsored academic partnerships. Exchange programmes to support senior-level academics to upskill to deliver DRR-related courses to students, or to facilitate exchanges between disaster-focused higher education institutions across the region, would be worth considering. DRM and community empowerment for DRR would also be important areas for new training opportunities, something the Malian Red Cross are well positioned to lead.

Priority 4: Enhancing disaster preparedness for effective response and to 'build back better' in recovery, rehabilitation and reconstruction

Progress and achievements

The capacities of risk observatories (food security, meteorology, floods, locust control) have progressed steadily in the past five years (see Priority 1). Further harmonisation and interoperability of their EWS and the creation of a National Emergency Operations Centre (CNOU) (Republique du Mali, 2019d) is expected to pave the way for the creation of a functional multi-hazard EWS, under the ambitions of the Hydromet Project (National Centre for Emergency Operations interview, 2020).

The CNOU serves as the operational arm of the Inter-Ministerial Committee for Disaster Management and as the Secretariat of the National DRR Platform. The accountabilities and functioning of these entities have been sanctioned by new laws introduced since 2016.

The National Contingency Plan is updated regularly and the CNOU is planning to streamline the approval process in 2021. Since 2019, Civil Protection, in collaboration with humanitarian partners, has been supporting contingency planning processes in high-risk regions. As of February 2021, six at-risk regions have also developed multi-hazard contingency plans. Civil Protection intends to facilitate contingency planning processes at district level as soon as adequate financial and technical resources are available (Civil Protection interview, 2020).

Infrastructural advancements are also evident. There is now an emergency number, '18', which is available 24/7 and free when calling MaliTel. Civil Protection now have two fire trucks and four or five functioning ambulances in every region (National Emergency Operations Centre interview, 2021).

There have been encouraging results in harmonising social protection and safety net investments to enhance community resilience, especially in areas affected by conflict (see Priority 3).

Despite minimal attention to the gendered vulnerabilities and impacts of disaster risk, there are some positive implementation efforts that could be used for future lesson-sharing; for example, the *Mali Femmes* women's resilience and agro-pastoral livelihood project provides insights into gendered implementation of rural development projects (Halle and Doumbia, 2020).

Finally, there are opportunities for enhancing technical capacity on DRR. The World Bank has funded training for Rapid Intervention Teams focused on health, incident managers in border areas and regional health workers through their Regional Disease Surveillance Systems Enhancement (REDISSE III) project. Further, the World Bank will continue to provide technical capacity development through their COVID-19 Emergency Response Project (World Bank, 2020). In tertiary-level formal education, master's degrees in disaster management are available from the Ministry of Health (DERSP, 2019) and the Peacekeeping School (Civil Protection interview, 2020).

Observations and recommendations

Challenges and limitations

While progress has been made on national and regional contingency plans, at the institutional level (see Priority 2) there is still limited attention to and investment in emergency preparedness, accountability for disaster recovery remains unclear, and coordination at the regional and municipal levels is insufficient across the DRM cycle.

Despite the progress at central institutional levels, the ability of the Watch Committees at regional, provincial, departmental and local level to coordinate preparedness and response remain very limited. The slow pace of financial decentralisation affects the capacities of sub-national disaster entities to meaningfully engage communities in planning for and responding to emergencies.

The National Contingency Plan is updated regularly, although the process continues to be perceived as onerous by many stakeholders; the establishment of the CNOU is intended to rejuvenate and streamline the process (National Emergency Operations Centre interview, 2021). Current contingency plans and the broader response system lack adequate consideration of disaster recovery in terms of an operational contingency plan, allocated institutional responsibility or financing strategy (UNDP interview, 2020; Civil Protection interview, 2020). Despite collective efforts to assess the recovery needs of Bamako following the 2019 floods, there is limited evidence that this meaningfully influenced institutional changes and the targeting of recovery investments. The limitations identified in 2019 largely remain a concern and include: the unavailability of pre-positioned food and non-food item stocks at regional level; the lack of operational capacity of the Watch Committees; the weak monitoring and information management capacity of the response system; and the absence of an established mechanism to pre-identify temporary shelter infrastructure (Ministère de la Santé et des Affaires Sociales, 2020).

Numerous stakeholders are concerned that the current approach to PDNAs, alongside the general approach to DRR/DRM, is somewhat gender blind. For example, the gendered impacts of the 2019 Bamako floods have not been emphasised in the PDNA or the Flood Recovery Framework (République du Mali, 2019a; 2019b). Technical training on gender, inclusion and intersectionality would be valuable, as part of a broader strengthening of DRR/DRM capacity. This was noted in the recommendations from the 2019 rapid PDNA, which highlighted the need to strengthen professional DRR and recovery training, particularly for urban planners and within the education sector (République du Mali, 2019a).

Recommendations

(P4 N-2) Develop national preparedness and response strategies incorporating gender and ‘build back better’.

(P4 N-2) Several stakeholders regard the National Contingency Plan as too cumbersome in its current format, making it difficult for humanitarian partners to use it as a reference for action. This also impacts the process of updating the plan, which many stakeholders find unwieldy. The UNCT should support CNOU in assessing the current use of the National Contingency Plan by national authorities and partners to better understand its user-friendliness, and to simplify its format and update process. The revision process should emphasise developing a plan that is accessible, understandable and useable. To test whether this has been achieved, an action learning research project should accompany this process to inform future revisions and gain an independent view on its useability.

(P4 N-2) Prior to the revision of the National Contingency Plan, a series of technical sessions could be convened. Each could be hosted by different members of the National DRR Platform in accordance with their specialism, to raise the level of understanding of different issues that are currently under-addressed by the plan. This includes, for example, preparedness, gender and social inclusion, urban planning, coordination across scales and decentralised DRR mechanisms, disaster recovery, and disaster risk financing. UNDRR and other UN agencies should provide technical support where specific technical areas are not available within the National DRR Platform, drawing on the extensive resources already available through PreventionWeb (2021).

(P4 N-5) Support response training and simulation exercises.

(P4 N-5) Professional training opportunities are required on all aspects of DRR/DRM, including specifically on risk reduction and disaster recovery for urban planners and in the education sector. This finding from the 2019 PDNA has not yet been implemented. Bolstering training on these themes in the existing master's degrees would be valuable, with placements offered to serving civil servants working within CNOU, Civil Protection and other disaster management entities across the government as part of their career development.

(P4 N-6) Facilitate partnerships to mobilise humanitarian funding.

(P4 N-6) The CNOU, supported by national DRR partners, the UNCT and the Malian Red Cross, could determine how to address the key gaps identified by the National Social Development Directorate's assessment of the 2019 flood response. The report highlighted key response challenges, including: the unavailability of pre-positioned food and non-food item stocks at regional level; the lack of operational capacity of the Watch Committees; the weak monitoring and information management capacity of the response system; and the absence of an established mechanism to pre-identify temporary shelter infrastructure (Ministère de la Santé et des Affaires Sociales, 2020). These recommendations should be taken forward by an action plan with an accompanying financing strategy.

(Sub-national level)

(Sub-national level) It is widely regarded that community engagement in preparedness and response activities led by the government require significant establishment and strengthening. Thus, any new investment should include a strong community empowerment and participation component throughout the programme lifecycle, possibly with oversight of key disaster agencies that have local-level connections such as the Malian Red Cross, NGOs and CSOs. To aid this, the National DRR Platform and Malian Red Cross could advocate for explicit attention to be given to documenting progress at the sub-national level within the Sendai Framework monitoring and reporting processes, allowing improved prioritisation of disaster risk investments to those regions most at-risk and lacking in risk management support.

Chapter 6: Mauritania

Reader's guide:

- This section briefly describes the risk profile of Mauritania before summarising the progress and achievements made, and barriers and constraints, for each of the four priority areas of the African Union Programme of Action (AU PoA) (which mirror the four areas of the Sendai Framework).
- For each of the four priority areas, the summary of progress, challenges and barriers *specifically reflect* the Priority Activities from the AU PoA implementation matrix (see Chapter 1).
- Detailed recommendations are provided for each of the four priority areas, linked to the specific AU PoA Priority Activities. The coding system described in Chapter 1 is employed to help readers connect the recommendations to the AU PoA Priority Activities.
- Although specific national recommendations are provided, readers are encouraged to adapt the recommendations to other countries, as appropriate.
- Further details of Mauritania's progress on disaster recovery are included in Chapter 11.
- Details of the methodology (primary and secondary evidence collection and analysis) that informed this chapter can be found in Chapter 1 and Annex 4.
- Acronyms are written in full the first time they are used within the chapter.
- Chapter bibliographies are included at the end of the report, which are further separated into the general overview for each country followed by the priority areas.

General overview

Mauritania, a lower middle-income country in West Africa, has experienced rapid population growth since the 1960s: from around 850,000 people in 1960 to over 4.5 million in 2019 (World Bank, 2021a). Mauritania is divided into 15 regions (*wilaya*), each headed by a governor. *Wilayas* are subdivided into 53 departments (or *moughatta*), and 217 local governments (République Islamique du Mauritanie, 2015).

The country is undergoing rapid urbanisation; in 2014, almost half of the population lived in urban areas, with around 60% of those people living in the capital city of Nouakchott (UNECA, 2017). Mauritania is ethnically and culturally diverse; the main ethnic groups are Haratine (black Moors) who constitute 40% of the population, Bidhane (white Moors, 30% of the population) and sub-Saharan Mauritians (30%). Haratine and sub-Saharan Mauritians experience structural and institutional discrimination (Boukhars, 2016).

Economic growth in Mauritania has fluctuated over the last five years, reaching 5.4% in 2015 before falling to 1.4% in 2016 (World Bank, 2021b). In 2019, gross domestic product (GDP) growth reached 5.9%, with a GDP per capita of US\$1,679 (World Bank, 2021b; 2021c). Exports of goods and services accounted for 40% of GDP in 2019. The main export goods include food commodities, ores and metals (UNCTAD, 2020; World Bank, 2021d). Lower commodity prices can put pressure on public finances. Around half (51%) of Mauritania's working population is employed in agriculture, while services employ a further 36% (UNDP, 2020a).

In 2020, Mauritania ranked towards the lower end of the Human Development Index, at 157 out of 189 countries (UNDP, 2020a). The country is making steady progress in raising life expectancy, improving access to education, and increasing the gross national income per capita. However, many challenges persist and Mauritania trails some of its West African neighbours in progress across various indicators (UNDP, 2020b). Poverty rates remain high, with 50.6% of the population living in multidimensional poverty (UNDP, 2020a). Inequality remains challenging, with the richest 10% of the population receiving 25% of the income (UNDP, 2020a). Poverty is both more common and more severe in rural areas (UNESCWA, 2017).

Improving gender equality remains challenging. In 2019, Mauritania ranked 151st on the Gender Inequality Index (UNDP, 2020b). The country has high maternal mortality and adolescent birth rates. Only around 13% of women have received secondary education compared with 26% of men, who are also more than twice as likely to participate in the labour force (UNDP, 2020b). The country is struggling to provide employment for its young population, with around 15% of youth unemployed and 40% not in education or employment (UNDP, 2020a).

In 2020, Mauritania's economy contracted by 2% as a result of the global COVID-19 pandemic (IMF, 2021). In response to these economic challenges, the government has set an expansionary budget for 2021 that prioritises health and education while providing targeted support for the most vulnerable individuals and supporting infrastructure construction (IMF, 2021). The country is also supported by financing from the international community and debt suspension. These measures, supported by higher commodity prices, mean that the country is well-positioned for economic recovery (IMF, 2021).

Risk profile

Mauritania is exposed to multiple hydrometeorological, environmental, biological and societal hazards. In 2020, the country ranked 67th on the World Risk Index, reflecting its lack of coping and adaptive capacities (Behlert et al., 2020). In a country where less than 1% of land is arable and with a high dependence on food imports, climate change impacts – such as rising temperatures and increasingly severe extreme weather events – are threats to development and food security.

Poor agricultural practices, overgrazing and deforestation lead to land degradation, upsetting the ecological balance and impacting the means of subsistence of the population. At the same time, marine ecosystems, which are fundamental to local economies and livelihoods, are subject to intensive fishing, climate change and coastal development and pollution which all threaten their sustainability (OECD, 2018). Mauritania is also at risk of disease outbreaks, with a shortage and uneven distribution of high-quality health workers limiting the availability of healthcare.

While Mauritania is not at high risk of conflict, there are several drivers of political instability in the country. These include politicisation of ethnic and religious identities compounded by inequitable distribution and access to goods and services. The country hosts more than 67,000 refugees as of the end of 2020, primarily from conflict-afflicted Mali, but also from the surrounding region (UNHCR, 2020).

Hydrometeorological hazard-related disasters

Mauritania is vulnerable to a range of hydrometeorological and climate-induced hazards. In addition to drought and flood risks, the country is highly exposed to the adverse effects of climate change. While arable land constitutes less than 1% of Mauritania's territory, traditional agriculture and

livestock farming rely on the rainy seasons to provide food for most of the population (ACAPS, 2021). Unpredictable seasonal rains due to the increased variability in annual rainfall in the Sahel, rising temperatures and the growing magnitude of extreme weather events are all particularly concerning for the country's development and food security.

Mauritania has experienced repeated flooding that has disrupted livelihoods, destroyed critical infrastructure and worsened food insecurity (ACAPS, 2021). The frequency and magnitude of floods has increased in recent years (Badji et al., 2014). In 2013–2014, unprecedented flooding affected over 70,000 people and caused significant damage in the Nouakchott region (FEWS NET, 2020). More recently, the southern agro-pastoral regions were affected by flooding in August and September 2020 (FEWS NET, 2020). While estimates of the number of cities that are highly exposed and vulnerable to floods vary, according to the Ministry of Hydraulics, Energy and Information and Communications Technology, at least 22 cities could face critical losses due to flooding and resulting landslides (Badji et al., 2014; Lo, 2016). Mauritania's risk of flooding is worsened by weak flood risk management, with the result that crucial infrastructure is built in highly susceptible areas (Lo, 2016).

Mauritania has also been subject to sustained episodes of hydrological droughts; that is, a lack of water availability in rivers and reservoirs as well as erratic rainfall. In recent years, cyclical droughts were recorded in 2005, 2008, 2010 and 2012 (German Federal Ministry for Economic Cooperation and Development, 2021). The northern regions of Adrar, Dakhlet Nouadhibou, Inchiri and Tiriz Zemmour are particularly exposed and vulnerable to drought risks (Lo, 2016). Desertification (which increased by 15% between 1974 and 2004) and unpredictable climatic conditions could also threaten livelihoods in the country (Badji et al., 2014; ACAPS, 2021). Long-lasting food crises have increased in recent years, with over 609,000 people requiring humanitarian assistance in 2020 (ACAPS, 2021). Alongside rainfall delay in several localities, the ongoing COVID-19 pandemic has aggravated pre-existing situations of malnutrition owing to interruptions to food market supply flows, seasonal reduction in imports, depletion of food stocks within poor households and declines in their purchasing power (FEWS NET, 2020).

Environmental hazard-related disasters

Mauritania is exposed to a host of environmental hazards including land degradation, pollution and desertification. Already vulnerable to cyclical phenomena, subsistence crops and livestock are further endangered by human-induced environmental pressures. Since the country's independence in 1960, successive droughts have triggered a series of migratory influxes into urban areas that have aggravated land degradation and desertification (Islamic Republic of Mauritania and ARC, 2016; German Federal Ministry for Economic Cooperation and Development, 2021). Subsequent loss of arable land and pastures contributes to the inherent difficulties of the country's production systems (Islamic Republic of Mauritania and ARC, 2016). Poor agricultural practices, overgrazing and deforestation also degrade the natural environment and threaten to disturb ecological balances and means of subsistence in the country (German Federal Ministry for Economic Cooperation and Development, 2021).

Water and soil pollution hinder access to drinking water (Lo, 2016). Mining regions, such as Akjoujt, F'Derik and Zouerate, are highly exposed to the risk of groundwater pollution (Lo, 2016). Offshore oil platforms also threaten the coast, with marine pollution reported in the waters west of Nouakchott (Lo, 2016).

Land degradation, pollution and the adverse effects of climate change threaten species richness in Mauritania (Kwasi et al., 2019; German Federal Ministry for Economic Cooperation and Development, 2021). Marine ecosystems account for more than 25% of Mauritania's export earnings, but their sustainability is threatened by intensive fishing, rising temperatures and ocean acidification (Kwasi et al., 2019).

Furthermore, some research suggests that Nouakchott could also be affected by rising sea levels due to climate change (Badji, et al., 2014). The Intergovernmental Panel on Climate Change's (IPCC) Representative Concentration Pathway (RCP) 6.0 model suggests a sea-level rise of 10cm by 2030 and 19cm by 2050, compared with sea levels in 2000 (German Federal Ministry for Economic Cooperation and Development, 2021).

Biological hazard-related disasters

Environmental impacts also intersect with biological hazards such as crop pests and zoonoses. Mauritania's ecosystems are at risk of the spread of parasites and invasive species, while livestock suffers from epidemics of zoonoses (German Federal Ministry for Economic Cooperation and Development, 2021). In 2012, the spread of Rift Valley Fever depleted livestock, aggravating food insecurity (Badji, et al., 2014).

Mauritania is at high risk of infectious disease outbreaks, including diarrhoea, hepatitis A, typhoid fever, malaria, dengue fever, rabies and meningococcal meningitis (WHO, 2016). Although the government has made concerted efforts to improve the country's health system, the shortage and uneven distribution of high-quality health workers around the country limit its performance (WHO, 2016).

While Mauritania is making significant progress in reducing the incidence of malaria, reducing mortality rates associated with the disease remains a challenge. Proliferation of mosquitoes after floods and poor sanitation contribute to outbreaks of dengue fever, which has been recurrent since an outbreak in 2014 (WHO, 2018). Population movement across the country risks spreading the disease to unaffected areas and neighbouring countries. More recently, in 2020, the country was affected by the COVID-19 pandemic. Between 3 January 2020 and 25 August 2021, the country confirmed 32,330 cases of the virus and 681 deaths (WHO, 2021). By 23 August 2021, a total of 254,155 vaccine doses had been administered.

Societal hazard-related disasters

While Mauritania is not currently experiencing active armed conflict, there are several drivers of political instability. Lack of economic prospects and unequal distribution of resources may fuel political and religious radicalisation. Politicisation of ethnic and religious identities also presents a challenge (Boukhars, 2016).

Islam is an official religion of the country and mainstream teaching rejects extremist thinking. However, during the 2000s, some Mauritians joined Al Qaeda cells in Afghanistan and Mali (Melly, 2019). The government has cracked down on extremist teaching and many potential recruits have left Mauritania on their own volition (Boukhars, 2016; Melly, 2019). Nevertheless, the country produces many jihadist ideologues and high-ranking terrorist operatives relative to its size and compared with its Saharan and Sahelian neighbours (Boukhars, 2016).

Mauritania is at the crossroads of transnational criminal networks. Incidents of cocaine trade, arms and cannabis trafficking, cigarette smuggling and kidnapping for ransom have been reported in the country (Rao, 2013). Like other countries in the region, Mauritania hosts refugees escaping the 2012 conflict in neighbouring Mali. As of February 2021, 62,709 Malian refugees, mostly supported by humanitarian aid, were registered in the Mbera camp located in resource-scarce eastern Mauritania, close to the Malian border (UNHCR, 2018; 2021). The country also hosts smaller populations of refugees from Côte d'Ivoire, the Central African Republic and Senegal, and even from as far away as the Syrian Arab Republic (UNHCR, 2021).

Priority 1: Understanding disaster risk

Progress and achievements

While limited state resources were dedicated to the Sendai Framework and AU PoA Priority 1 by 2014 (Badji et al., 2014), there have been some developments in understanding disaster risk. In particular, in 2015, *Agence Française de Développement* (AFD, French Development Agency) supported a state-led National Risk and Vulnerability Assessment (*Schema National d'Analyse et de Couverture des Risques*), which is currently being updated (Senior Expert Consultation, 2021). In 2015, the Centre for Crisis Monitoring, Alerts and Management (COVACC), funded by the North Atlantic Treaty Organization (NATO), was established to serve as a multi-hazard risk monitoring and response hub. It is hoped that the Centre will become operational in 2021: the premises and equipment are in place and Civil Protection has recently recruited 130 new members of staff (AFD interview, 2021; Civil Protection interview, 2021).

The capacity of hazard-specific risk monitoring systems has evolved, although not dramatically, since the 2015 baseline. At the time of the baseline, the National Meteorological Office (*Office National de la Meteorologie*, ONM) had an extensive surveillance network comprising weather stations, agrometeorological stations, maritime observation and rainfall, as well as satellite imagery. This allowed weather forecasts to be created and disaster predictions made two to three days in advance (Badji et al., 2014). Today, the ONM collaborates with the European Organisation for the Exploitation of Meteorological Satellites (EUMETSAT), the World Meteorological Organization (WMO) and the Global Climate Change Alliance (GCCA), among other partners, to strengthen its access to reliable data and to enhance its digital transformation, in addition to upgrading its weather stations.

In food security risk monitoring, the World Food Programme (WFP) and other partners continue to support the Food Security Commission and its early warning mechanism (*Système d'Alerte Précoce*, SAP) for drought, floods, locust invasions, livestock issues and food price fluctuations. Anecdotal evidence suggests that the SAP system is sound, with various agencies responsible for delivery in different *wilayas*, such as Oxfam (covering Brakna and Gorgol) and Action Against Hunger (covering Guidimaka and Hodh Ech Chargui). An active network of community volunteers provides monthly information at the sub-national level. This is combined with information on food prices, production capacity and other indicators, and is channelled to the national-level analysis and decision-making centre (WFP interview, 2021). Further, the government and WFP conduct twice-yearly national food security surveys, funded through *Cadre Harmonisé*.

There are established institutional mechanisms for food security monitoring. Under Article 2 of Decree No. 042-2002, a national food security consultation framework governs the monitoring of the agricultural and livestock season (République Islamique du Mauritanie, 2002a). Under the framework, a specialised working group (GTS) meets regularly, and comprises relevant government ministries and agencies, including the Food Security Commission, Ministry of Agriculture, Ministry of Livestock and its partners in this field, WFP, the Food and Agriculture Organization of the United Nations (FAO) and FEWS NET (Government of Mauritania and ARC, 2018).

More recently, in 2019/2020, Mauritania has been working towards establishing a national risk profile in collaboration with WFP and ARC, which includes aspects on vulnerability, drawing on national household survey data where available (ARC, 2019; UNDP email exchange, 2021).

National legislation on biological threats is considered strong, due to its alignment with the International Health Regulations (IHR) and indicator-based disease surveillance system (WHO, 2017). At the time of the baseline, the Ministry of Health and the National Centre for Locust Control (*Centre National de Lutte Antiacridienne*) supported the most effective early warning systems (EWS) in the country (according to the Capacity for Disaster Reduction Initiative (CADRI) 2014 assessment – Badji et al., 2014). Mauritania has also established several entities to oversee surveillance, including the national epidemiological surveillance commission, a zoonotic disease joint monitoring unit, and a national multi-sectoral commission for avian influenza control (WHO, 2017).

At the 2015 baseline, the Directorate of Cartography and Geographic Information within the Ministry of Environment, Urban and Land Planning had robust Geographic Information System (GIS) capacities.

National disaster risk management (DRM) information and communication falls under the remit of the Permanent Cell for the Coordination and Monitoring of Emergency Situations (*Cellule Permanente de Coordination et de Suivi des Situations d'Urgence*, CPCSSU) according to the national legislation (Decree No. 0431, see République Islamique du Mauritanie, 2002b). This includes the mandate to centralise emergency response and disaster risk reduction (DRR) information. There has also been support for strengthening the management of information. For example, the National Environment and Sustainable Development Strategy 2017–2021 (*Strategie Nationale de l'Environnement et du Developpement Durable*, see République Islamique du Mauritanie, 2017) includes a specific thematic area focusing on knowledge management (research, environmental information systems and monitoring) for decision-making. This thematic area envisages national capacity-building efforts to promote data- and knowledge-based political decision-making for environmental protection and climate change adaptation.

Several sectorial EWS, including those focusing on food security, epidemics and locust control, source information from community-based sentinel volunteer groups. For example, the Food Security Commission and the National Centre for Locust Control base their EWS on community knowledge and participation, as did the community-based surveillance managed by the Ministry of Health, which was piloted in 2017 (WHO, 2017). Learning from these systems and empowering local communities to be part of a national multi-hazard platform should be the foundation of any new initiative or investments.

There is evidence of progress in post-disaster data collection. A number of post-disaster needs assessments (PDNAs) have been conducted, including, in 2019, the Mauritanian Red Crescent rapid

needs assessment following the floods in Guilimakha *wilaya*, which affected 1,500 households and resulted in the deaths of seven people. The assessment was a collaboration involving several non-governmental organisations (NGOs), United Nations (UN) agencies and local administrative authorities (IFRC, 2020a). More recently, following the 2020 floods in the Hodh Ech Chargui *wilaya*, local authorities set up a ‘damage assessment commission’ to conduct the needs assessment (IFRC, 2020b).

The CADRI report (Badji et al., 2014) provides no baseline on gender- and age-disaggregated data. Recent evidence on progress in this area is limited. The 2017 Joint External Evaluation (WHO, 2017) assessment, for example, does not refer to data disaggregation. Several recent Green Climate Fund (GCF) projects that include aspects of gender disaggregation have been approved. For example, the project ‘Enhancing the resilience to climate change of livelihoods and food security of agro-sylvo-pastoral communities in southwestern Mauritania’ includes a strong dimension of gender empowerment and development of a gender assessment and action plan. These are positive developments that should foster a stronger focus on gender- and age-sensitive interventions and, by extension, the production and use of gender- and age-disaggregated data (GCF, 2019).

Awareness-raising and dissemination of risk information within Mauritania remains hazard-specific. In terms of progress, notable examples include, most recently, a nationwide COVID-19 awareness campaign by the Ministry of Health (OMS, 2021). Other examples are hazard and geographically focused, such as the ONM and United Nations Development Programme (UNDP) meteorological risk sensitisation activities in five at-risk areas between 2018 and 2020.

Mauritania has an active cadre of researchers. This includes researchers hosted within the National Centre for Agronomic Research and Agricultural Development, a National Research Institute in Public Health, an oceanographic and fishery research institute, a National Office for Livestock Development and Research, and an *Ecole Normale Supérieure* researching biodiversity and sustainable development (République Islamique de Mauritanie, 2019).

While specific professional training opportunities on DRR and DRM remain limited, Mauritania has invested substantially in developing higher education opportunities and research in environmental protection and other relevant scientific fields. For example, University Nouakchott currently offers a number of master’s degrees focusing on environmental protection and migration (PATEO, 2019). It also offers 11 accredited post-doctoral degrees connected to 31 research units focusing on water, eco-biology, decision-making informatics, nutrition, climate change, public health and epidemics (République Islamique de Mauritanie, 2019).

Observations and recommendations

Challenges and barriers

It is difficult to ascertain whether there are clear definitions for hazard classification and terminology, and whether hazard- and disaster-related terms and concepts are harmonised across the various hazard-based monitoring and EWS. At present, Mauritania has no central risk monitoring system or database for recording disaster loss and impacts and the country does not report on DesInventar (a free, open-source disaster information management system). The absence of a multi-hazard risk monitoring and EWS indicates that Mauritania is not yet on track to achieve Target G1 of the Sendai Framework. As a result, several risk monitoring institutions have called for reform. These limitations have practical implications: for example, the lack of agreed indicators and protocols to

collect and process risk and disaster data has been cited as a key challenge to the full operationalisation of the CPCSSU. This is compounded by the lack of a centralised database to facilitate the use of risk information generated by the different systems (Badji et al., 2014). Further, the lack of data disaggregation for gender and other intersectional impacts remains a major barrier to understanding the nuances of hazard exposure, vulnerabilities and disaster risk.

While the institutional foundations are in place for a better understanding of disaster risks, a number of limitations prevent their full operationalisation. The COVACC, for example, has limited qualified staff and resources and is not currently operational, while the capacity of the ONM has not evolved substantially since the 2015 baseline, with just one further weather station being added (to bring the total to 15 in 2021) and limited capacity to maintain the functioning of automatic systems (ONM interview, 2021; Senior Expert Consultation, 2021).

The food security risk monitoring system and the Food Security Commission remain heavily dependent on external expertise and financial resources, which presents a risk to sustainability and national ownership. For example, the WFP-funded SAP project (described above) is due to end in May 2021. Further, while there is an effective food security monitoring and alert system channelling information from the community level through to the national level, national authorities have not mainstreamed this function into their routine work or accountabilities (WFP interview, 2021).

The WHO Joint External Evaluation (WHO, 2017) on the national legislative environment on disease surveillance commended progress in the country, but it noted that mechanisms such as the Integrated Disease Surveillance and Response Network and the Mauritanian Animal Disease Surveillance Network lack sufficient capacity to be fully effective (WHO, 2017).

There have been positive developments in strengthening data collection in the aftermath of a disaster, evident in the PDNAs conducted in recent years following flood disasters. However, there remains some way to go to ensure that data collection is systematic and harmonised. This research was unable to find evidence of any references to nationally adopted post-disaster research protocols on data collection, nor any standardised or nationally agreed needs assessment methodologies.

The establishment of systematic vulnerability analysis, or a multi-hazard early warning is not a high priority for the government, and no substantial efforts towards the establishment of a central database on disaster damages and losses have been reported. Further, this research could not verify progress in the capacity of the Directorate of Cartography and in the inter-sectorial coordination of risk and vulnerability mapping.

Most informants who contributed to this research share the opinion of the 2014 CADRI assessment that there is limited political backing for a major reform of the multi-hazard risk monitoring and EWS. While the ONM and the SAP have strengthened their risk monitoring and early warning capacity compared with the 2014 CADRI findings, these institutions remain highly dependent on external support and funding.

There is a vacuum in national legislation and institutional frameworks around multi-hazard early warning and analysis. This is one of the key challenges to the establishment of a functioning system, and it may point to the need for further sensitisation of political decision-makers on the value of such a system.

Finally, risk education is not yet integrated in the school curriculum. According to the AUC biennial report, which tracks progress on countries having DRR integrated into their educational systems at all levels, it was reported that up to 2018 Mauritania had made 'limited achievement' in this area (AUC, 2020). On a broader scale, state-led risk awareness campaigns continue to be included in humanitarian response operations, but not in more sustained national development and poverty reduction initiatives.

Recommendations

(P1 N-1) Mobilise resources for profiling, monitoring and assessing disaster risks.

(P1 N-1) According to national legislation (Decree No. 0431, see République Islamique du Mauritanie, 2002b), CPCSSU is accountable for centralising emergency and DRR information management. However, it does not yet have a database to facilitate the use of risk information generated by the different systems (Badji et al., 2014). Using the findings of the 2016 Legislative and Institutional Assessment (Lo, 2016), the CPCSSU in partnership with key UN agencies specialising in DRR, could explore ways to enhance the legal and institutional reform needed to centralise and analyse disaster risk, vulnerability, capacity and exposure data, and lay the foundations for adjusting risk-specific data collection and monitoring towards a central interoperable system. The focus should be on connecting the meteorological, food security, water management, locust control and epidemiology observatories, with a longer-term ambition to create a robust and adequately resourced national prediction and alert system.

(P1 N-2) Establish/strengthen technical structures for risk surveillance and assessment.

(P1 N-2) Risk monitoring and EWS are yet to be effectively coordinated, making it difficult for the state to plan policies and investments based on a solid consideration of cyclical and recurring hazards and on the complex nature of communities' vulnerabilities. A high-level sensitisation initiative targeting the Prime Minister and other key ministers could be devised and launched to create awareness of the current gaps in understanding risk and a sense of urgency for the required reform. A cross-country peer review process, similar to those previously organised by the World Bank, the Organisation for Economic Co-operation and Development (OECD) and the United Nations Office for Disaster Risk Reduction (UNDRR), may serve as a useful prompt and incentive to national decision-makers. Countries willing to engage could undergo a peer support process to identify suitable systems, tools and applications for establishing interoperable risk management systems that have worked in countries like Mauritania (in terms of having a similar level of maturity on DRM and similar economic constraints). The objective of the peer review would be to create a multi-year plan to establish and finance an effective central repository of regularly updated disaster information, linked to an operational EWS.

(P1 N-2) AFD intends to support the 2021 update of the National Risk and Vulnerability Assessment (*Schéma National d'Analyse et de Couverture des Risques*). This product will be an important advocacy tool for the government to design risk-informed development plans, and relatedly for the United Nations Country Team (UNCT) to advocate for risk-informed allocation of state-led investments. Care should be taken to ensure a robust methodological approach to understanding gender and intersectional risks and vulnerabilities as part of this assessment. Specialists such as UN Women and the international Gender and Disaster Network (GDN) could provide technical support, if needed.

(P1 N-2) AFD could consider adding an action learning research component to the process of updating the National Risk and Vulnerability Assessment. This could aim to work in collaboration with the CPCSSU to assess the current technical capacity gaps within CPCSSU to ascertain its ability to lead future updates. The learning research component could also aim to devise a capacity-building accompaniment initiative aimed at supporting the CPCSSU in assuming full responsibility for annual updates to the assessment, over a five-year timeframe.

(P1 N-2) Following the recommendation above, to ensure the findings of the assessment are used, UN agencies such as the United Nations Environment Programme (UNEP) could champion the results of this assessment to design risk-informed GCF-backed programmes, for example (as noted in Priority 3, three large projects are in the pipeline). Similarly, UN agencies and international NGOs supporting the Partnership Framework for Sustainable Development (CPDD) could use the findings from the assessment to evaluate the current prioritisation of state-led initiatives on poverty reduction and climate investments, to verify whether they are effectively targeting those most vulnerable to disaster risks, and – if discrepancies are identified – to work together to redirect funds where they are most needed.

(P1 N-3) Harmonise risk and warning definitions and concepts.

(P1 N-3) To harmonise risk information, Mauritanian universities and research institutes alongside the International Science Council (ISC), in collaboration with the African Science and Technology Group, could devise a series of in-person and online training sessions to help key DRR/DRM stakeholders from across government, UN agencies and NGOs to better understand the existing scientifically agreed hazard terminology and classifications (ISC and UNDRR, 2020). This could be linked to sector-specific sessions to bring together all stakeholders involved in collating and monitoring risk and warning information, with the goal of achieving greater appreciation and support for future adjustments to existing databases and for early warning mechanisms to become interoperable.

(P1 N-4) Establish/strengthen DRR databases.

(P1 N-4) Selected senior decision-makers from COVACC and CPCSSU should convene a high-level meeting to discuss the relative benefits of working towards future reporting on DesInventar, and the current limitations and steps required to implement the necessary data collection, verification and monitoring processes. Given their experience in supporting countries in disaster/risk data collection, analysis and application in decision-making, agencies such as the United Nations Office for the Coordination of Humanitarian Affairs (UN OCHA), UNDRR and UNDP, among others, could also be invited to support the process. Supporting agencies could also consider devising clear incentives to COVACC and CPCSSU to finance this initiative – which could include pooled funds from the Global Facility for Disaster Reduction and Recovery (GFDRR), AFD, UNDP and others.

(P1 N-5) Establish DRM information and communication systems.

(P1 N-5) Mauritania currently lacks a national DRM information and communication system linked to all hazard-specific data repositories and EWS. As many of the recommendations outlined above are necessary foundational steps towards the establishment of such a system, preparatory research could first be undertaken to simulate the changed risk and early warning information that could be produced by an enhanced and coordinated system. This can then be applied to future risk scenarios,

while demonstrating that interconnected risks are a present and future reality and that the necessary disaster management systems are lacking and urgently needed. An effective example is the 2020/2021 context, which could include the nature of linked information on the COVID-19 pandemic, climate-related hazards, the economic downturn and food security interplay – and how complex risk analysis could help to inform post-COVID-19 recovery planning.

(P1 N-3) Harmonise risk and warning definitions and concepts; (P1 N-6) Operationalise post-disaster damage, loss and impact assessments.

(P1 N-3 and P1 N-6) Since the PDNA methodology was developed jointly by the UN, European Union (EU) and the World Bank, the same entities could support Mauritania to create and deliver a process to develop a set of nationally agreed protocols and standardised methodology for PDNAs. Taking a phased approach, steps could include: (1) awareness-raising, showcasing examples of PDNA processes in other Sahelian countries and the added-value of such processes; (2) exploration, sharing a range of possible methodologies, formats and protocols for PDNAs to inspire the stakeholders; and (3) refinement, working collaboratively to devise a distinctly Mauritanian approach to PDNA, based on current capabilities, institutional willingness, financing limitations and data needs.

(P1 N-7) Integrate DRR in education and training.

(P1 N-7) The Ministry of Education, and where required with support from entities such as the United Nations Children’s Fund (UNICEF) and UNEP, could explore how to embed DRR and climate change adaptation in the primary and secondary school curriculum. Successful examples from other countries that have integrated these areas in the school curriculum could be provided by UNDRR to help accelerate the process. Peer-to-peer support (through study visits, for example) from the Ministries of Education of other Sahelian countries could be a useful aid.

(P1 N-9) Mobilise awareness-raising and advocacy initiatives; (P1 N-10) Integrate and safeguard local DRM knowledge.

(P1 N-9 and P1 N-10) A formal cooperation agreement could be crafted and signed up to by the range of disaster stakeholders across the country who have a shared interest in designing and operationalising a set of pilot, locally appropriate, multi-risk awareness-raising programmes. The aim would be to improve targeting of the most vulnerable and exposed communities and to cover a broad range of hazards, starting with flood risk. The programmes should focus on harnessing traditional and local risk knowledge and should apply a strong social inclusion and women’s empowerment lens. A related objective of the programmes could be to show the return on investment of risk-awareness activities and to provide a powerful advocacy tool for national scale-up. The Ministry of Environment and Sustainable Development (*Ministère de l’Environnement et du Développement Durable*, MEDD), Civil Protection and the Ministry of Health (among the key state entities involved in DRR) could use the lessons learned from the pilot to design a national risk-awareness programme.

(P1 N-10) To achieve the recommendation above, it would first be necessary to fill a substantial evidence gap by commissioning research to explore the strengths and limits of the existing community-based risk monitoring EWS and to provide evidence-based recommendations on how to create a local-to-national multi-hazard EWS. As an example, warranting further consideration, this study could be linked to the existing Mauritanian Red Crescent outreach, or the Global Network of Civil Society Organisations for Disaster Reduction (GNDR) national reporting process.

Priority 2: Strengthening disaster risk governance to manage disaster risk

Progress and achievements

National legislation establishes the creation and functioning of inter-sectoral mechanisms for crisis management, including an Inter-Ministerial Committee for Emergency Situations (*Comité Inter-Ministeriel aux Situation d'Urgence*) that is chaired by the Prime Minister and supported by CPCSSU. National legislation also defines the regional emergency structures – the Regional Committees for Emergency Management (*Comité régional de gestion des Situations d'Urgence*) – and establishes the creation and functioning of Civil Protection and the Organization of First Aid Plans (*Organisation des Secours Plans*, ORSEC) (Badji et al., 2014).

The most tangible progress at institutional level since 2014 is the transformation of the Directorate of Civil Protection into a Delegation, in September 2019. The status of Delegation provides more agility, independence and, potentially, financial resources. Since 2019, the newly named General Delegation for Crisis Management and Civil Protection has increased its personnel and now operates through 17 first aid centres across the country (UNICEF interview, 2020). The Delegation is supported by UN agencies and bilateral donors including Algeria, France, Monaco and Morocco, which provide ad hoc financial and non-food item assistance.

The Accelerated Growth and Shared Welfare Strategy 2016–2030 (*Strategie de Croissance Accélérée et de Prospérité Partagée*, SCAPP), which includes the objective of developing a National Framework for Disaster Risk Reduction, describes Mauritania's development goals (République Islamique du Mauritanie, 2015). The Strategy identifies rising sea levels as a major threat to the country and emphasises the need to reinforce preparedness for floods. The Strategy notes that the government has developed the National Capacity Development for Disaster Risk Reduction and Emergency Response Action Plan (2015–2018) (CADRI and République Islamique de Mauritanie, 2015) and that climate change adaptation has been further integrated into poverty reduction strategies to strengthen community resilience. The Strategy also mentions that environmental governance has been reinforced (République Islamique de Mauritanie, 2015).

Plans have been developed or updated for some hazards. For example, in 2018, the Directorate of Civil Protection coordinated the development of a Flood Response Plan in coordination with international humanitarian partners. The Plan details regional to national accountability for preparedness and response, including those for UN agencies and the Mauritanian Red Crescent. It also marks a step forward in clarifying response responsibilities across different scales by clearly identifying *wilayas* as the lead response entities for any flood-related emergency. The Plan includes scenarios and broad response protocols and refers to the availability of a rapid response form and to the Multi-Cluster Sectoral Rapid Assessment methodology (Ministère de l'Intérieur et de la Décentralisation, 2018). In another example, in 2019, a multi-hazard contingency plan was developed for the Hodh Ech Chargui region (International Organization for Migration (IOM) interview, 2021).

Despite the positive achievements in some areas, the overall slow progress on DRR/DRM is apparent. In late 2020, the government called on agencies (IOM, UNDP, UNICEF, WFP and the French Red Cross) to help bolster national DRR efforts. In response, the agencies proposed a capacity assessment exercise to help identify necessary strategic investments in risk reduction and management (IOM interview, 2021).

Mauritania has made notable progress in its commitment to action on climate change. In 2017, the government ratified the United Nations Framework Convention on Climate Change (UNFCCC) and the Council of Ministers approved the National Determined Contributions (NDCs) and established a Cell on Climate Change (previously a Focal Point) within the MEDD. By early 2019, several sectorial climate change task forces had been established in various ministries, including the Ministry of Finance, Agriculture, Oil, Energy and Mines. Of 23 ministerial departments, 18 had a climate change focal point in 2019 (Réseau Mauritanien pour l'Action Sociale, 2019). The MEDD and several sectorial ministries built internal technical capacity to mainstream climate change adaptation into their policies and programmes. The MEDD is also officially mandated to coordinate cross-sectorial DRR initiatives.

There have been advances in protecting and restoring ecosystems critical to DRR. The government has sought to reinforce its coastal ecosystem through the 2017 adoption of a Strategic Plan for the Development of the Mauritanian Coastal Line (*Plan Directeur d'Aménagement du Littoral Mauritanien*, see Ministère de l'Environnement et du Développement Durable, 2017). The Plan includes a multi-sectorial investment plan totalling US\$133.9 million. The Plan was approved by the Council of Ministers and had mobilised US\$20 million from the World Bank as of 2019 (Réseau Mauritanien pour l'Action Sociale, 2019).

Finally, at the sub-national level, the Sahel Resilience Project has supported the creation of 12 Regional Emergency Management Committees to coordinate emergency response in all *wilayas* of Mauritania. The Committees were established by governor decree in each region in 2021 (UNDP email exchange, 2021). The Sahel Resilience Project is currently assessing the technical and operational needs of the committees (UNDP email exchange, 2021).

Observations and recommendations

Challenges and barriers

While having DRR/DRM managed under the Prime Minister's Office is generally considered a good basis for establishing a robust risk management system – wherein a central body with convening and decision-making power provides an overall coordination function to line ministries – there remains much institutional strengthening to do to ensure effective cross-sectorial coordination and the integration of DRR into sectorial policies and programmes. An extensive review of the legislative framework undertaken by CADRI in 2014 (Badji et al., 2014) and by the government with UNDP in 2016 (Lo, 2016) highlights the primary focus on response and, to a lesser extent, on the preparedness of Mauritania's legislation. The National Disaster Risk Management Strategy, dated 2007 and adopted in 2009, established the Inter-Ministerial DRR Committee and a National DRR Platform (République Islamique du Mauritanie and UNDP, 2007; Badji et al., 2014). This research could not find confirmation that the Committee was operational in 2014, while the CADRI Assessment confirms that the Platform only existed 'on paper' at that time (Badji et al., 2014).

The National Disaster Risk Management Strategy (République Islamique du Mauritanie and UNDP, 2007) is not currently operational and the National DRR Platform is dormant (IOM interview, 2021; WFP interview, 2021). The National Disaster Management centre, established in 2015, is still not functioning. The Disaster Management Plan has not been revised since 2007, and unfortunately the National Capacity Development for Disaster Risk Reduction and Emergency Response Action Plan (2015–2018) (CADRI and République Islamique de Mauritanie, 2015) is now outdated and, according to several informants, not yet implemented. However, a comparison of its recommendations with

the evidence gathered through this research suggests that, although the Plan has not been implemented, the contents continue to be valid and form the basis of the recommendations of this report. The MEDD is mandated to coordinate cross-sectorial initiatives, but its capacity to do so is reportedly still limited.

There is no current national multi-hazard contingency plan; the guiding emergency response document is the Immediate Response Plan (*Plan organisation des secours*), based on Decree No. 17/2002 (République Islamique du Mauritanie, 2002c).

Despite the positive transition from a Directorate to a Delegation, capacity remains limited and is widely considered to be inadequate to meet the disaster-risk needs of the country. While there is some coverage of first aid centres, some areas of the country are lacking – in the region of Ardar, for example, which covers one-fifth of the country, there is no civil protection antenna (UNICEF interview, 2020). Mauritania has just one fire fighter for every 16,000 citizens (UNICEF interview, 2020).

This research was unable to obtain robust evidence on the state of disaster risk governance arrangements at the sub-national level, although anecdotal evidence suggests that clarifications on roles, responsibilities and accountabilities at the sub-national level are lacking. It can be assumed that any significant progress on DRR at the sub-national level is beyond the reach of the sub-national administrative entities, given the scarce technical and financial resources at their disposal. Given that the Sahel Resilience Project provided substantive support to establish sub-national coordination mechanisms – the Regional Emergency Management Committees – it may simply be that the impacts are taking time to come into effect (UNDP email exchange, 2021). It would be worth monitoring the new committees over the coming years to see what tangible changes in risk management take place at the local and sub-national level. Initial insight points to the need for further technical and operational support in order to ensure the committees become fully functioning (UNDP email exchange, 2021).

The consolidation of DRR and climate change adaptation coordination mandates within the same ministry is an opportunity to aggregate and streamline several functions, allowing multi-hazard coordination to benefit from the political and financial backing enjoyed by the high profile of climate change adaptation actions. At the inter-sectoral level, it may be appropriate to design an updated National Disaster Risk Reduction Strategy (République Islamique du Mauritanie and UNDP, 2007) to define how the government plans to address the multiple risks through its large poverty reduction, social protection, environment-focused and climate adaptation policies and plans, in addition to its sectorial priorities.

In 2017, an inter-agency scoping mission (Baranes, 2017) recommended further integration of DRR into several policy and regulatory frameworks, including the Strategy of Social Protection, the Accelerated Growth and Shared Welfare Strategy, planning and sanitation regulations for urban centres, as well as into needs assessment tools.

There is a clear ambition to improve rural and urban resource management and planning standards, as articulated in the 2016–2030 SCAPP (République Islamique de Mauritanie, 2015). However, this research could not find evidence of progress in compliance and enforcement of DRR regulations or planning standards.

It remains difficult to assess whether the progress made for specific hazards – namely the 2018 Flood Response Plan (Ministère de l'Intérieur et de la Décentralisation, 2018) – has had a tangible impact on improved coordination or quality of response. For example, there is limited evidence on how the Plan and its accompanying rapid response tool and Multi-Cluster Sectoral Rapid Assessment methodology impacted the response to the 2019 and 2020 floods – an area warranting independent empirical research.

Recommendations

(P2 Key Output 1) Policies, strategies, plans and legal frameworks to reduce risk and strengthen resilience are adopted and implemented.

(P2 Key Output 1) While Mauritania has not yet achieved Sendai Framework Target E in full, the recommendation that the government develop an updated National Disaster Risk Reduction Strategy (République Islamique du Mauritanie and UNDP, 2007) would provide the opportunity to articulate the intersection between the wide range of resilience-focused national programmes (poverty reduction, national adaptation plan, food security, desertification) and a Multi-Hazard Preparedness and Response Plan (also recommended for development). However, rather than using the standard format of a National Disaster Risk Reduction Strategy, organised around the Sendai Framework, there is opportunity to experiment with a completely different structure – one that will better reflect the primacy of climate change adaptation and poverty reduction. Similar innovative recommendations have been made – although not yet implemented – for other Sahelian countries, such as Chad (see Peters et al., 2019), wherein the focus is on creating a strategy that acts as an organising framework, rather than an additional layer of risk governance (this is particularly pertinent given the current weaknesses in Mauritania's disaster risk governance arrangements, as detailed in Priority 2).

(P2 N-2) Operationalise institutional frameworks; (P2 N-3) Create/reinforce multi-stakeholder DRR platforms.

(P2 N-2 and P2 N-3) This research did not assess the capacity of the UNCT to lead a coordinated discussion around DRR. Assessing the capacity and appetite of the UNCT for such an initiative would be valuable, to ensure that any high-level mobilisation effort is in line with the UNCT's vision, and that adequate capacity is available to accompany the government in implementing the recommendations outlined in this report. The capacity assessment could include specific recommendations for the level of technical and financial support needed by UN agencies to support their country offices, which will in turn support the government to make the necessary changes to bolster Mauritania's disaster risk governance systems, legislative and regulatory environment, and multi-stakeholder and cross-sectoral coordination.

(P2 N-2 and P2 N-3) A costed National Plan for Capacity Development for Disaster Risk Reduction could be designed by the MEDD and would benefit from the input of experienced UNCT members and other strategic partners such as CADRI. This exercise should consider as its starting point the details of the National Capacity Development for Disaster Risk Reduction and Emergency Response Action Plan 2015–2018 (CADRI and République Islamique de Mauritanie, 2015), which has not yet been implemented. The new National Plan should include a substantive 'internal capacity-building chapter', described further below.

(P2 N-3) Create/reinforce multi-stakeholder DRR platforms.

(P2 N-3) The overall mandate for DRR coordination lies with the MEDD, which has not yet fully developed its capacity to fulfil this task. National, regional and international technical and financial DRR partners could support the MEDD to assess its current capacity and to devise a plan to upskill the capacities of its staff. The plan could also describe how the sectoral climate change task forces available in 18 out of 23 ministerial departments (Réseau Mauritanien pour l'Action Sociale, 2019) could be formally endowed with DRR mainstreaming accountabilities, and which capacity-strengthening investments would be needed to translate such a mandate into changed risk reduction outcomes.

(P2 N-5) Enhance awareness and compliance of public regulation measures on DRR.

(P2 N-5) Risk accumulation due to uncontrolled and non-risk-informed development in urban and peri-urban areas presents a major threat to disaster resilience. To address this, the relevant Government of Mauritania line ministries (transport, health, education) can assess the availability, compliance and enforcement of public regulation measures on DRR, including building standards for schools, hospitals, critical infrastructure and land-use planning and zoning. GFDRR and the World Bank may be valuable partners in this endeavour, due to their experience and leadership in urban risk management and infrastructure development, alongside sectoral technical specialists. Inviting and funding selected line ministry delegates to the Global Platform on Disaster Risk Reduction 2022, and forthcoming World Reconstruction Conferences, may provide a useful incentive for action towards achieving pre-agreed preparatory changes.

(P2 N-6) Align climate and DRR coordination mechanisms.

(P2 N-6 (and P2 N-3)) Related to the recommendation above (P2 N-3), investments in sectoral capacity-building could begin with pilots with the climate change task forces most willing to expand their remit to include climate-related hazards. These initial experiences should be documented and learned from, through a partnership with an academic institution that can undertake action research. The insights from the pilots could help to articulate the added-value of taking on DRR considerations, and the incentives of doing so, by the task forces – which will be necessary to convince those less enthusiastic about the prospect of expanding their scope.

(P2 N-7) Facilitate the implementation of the Sendai Framework through practical tools.

(P2 N-7) In conjunction with the recommendations outlined for P1 N-1, the government could use the legislative review conducted in 2016 (Lo, 2016) to assess the legislative changes needed to further include emergency preparedness and recovery in the accountabilities of the COVACC and Civil Protection, and to define clear institutional roles for prevention and recovery coordination and oversight. The legislative reform could include clear articulation of responsibilities at sub-national level, and how different levels of disaster risk governance could most effectively work together.

(P2 N-7) Civil Protection should be supported by financial and technical partners to develop a national multi-hazard contingency plan, based on the national and regional accountabilities defined in the 2018 Flood Response Plan (Ministère de l'Intérieur et de la Décentralisation, 2018), including the accountabilities of UN agencies and the Mauritanian Red Crescent. Regional UN teams from UNDP, UNDRR and UN OCHA would be well placed to provide examples of multi-hazard contingency plans from other countries across the region, with exchange visits between government

counterparts who can share their experience on how to devise a process for creating such a plan, and what they would do differently.

(P2 N-7) To align with DRR governance structures in most African countries, Mauritania could establish a National DRR Platform. UNDRR could provide examples of functioning platforms and facilitate exchanges between the Government of Mauritania and state officials from other countries, alongside key counterparts including the Mauritanian Red Crescent. This exchange could be part of the high-level peer review process described under P1 N-2.

(Sub-national level)

(Sub-national level) An independent assessment of the impact on community resilience of community-led initiatives, social safety nets, and gender-sensitive community empowerment of all the key national development policies could be commissioned (see P2 SN-3). Lessons learned from this exercise can be used to adapt critical programmes under the CPDD and to advocate for further state-led investments, and could also be used by UNDP, the AUC and UNDRR to support other Sahelian countries investing heavily in community resilience.

Priority 3: Investing in DRR for resilience

Progress and achievements

This research found limited evidence of dedicated funding for DRR beyond the regular contributions to Civil Protection administrative charges. However, Mauritania receives a vast array of multi-million-dollar investments from the World Bank, climate finance and other donors – many of which contribute directly or indirectly to enhancing climate and disaster resilience (discussed further below). Many of these investments include a strong community participation component, in line with the national development strategies. Further, sector-specific and cross-sector strategies and plans were revisited and strengthened between the 2015 baseline and 2020, placing more focus on locally led resilience and environmental protection.

One notable Mauritanian development programme is the 2016–2019 National Integrated Programme for Decentralization, Local Development and Youth Employment (*Programme National Intégré pour la Décentralisation le Développement Local et l'Emploi des Jeunes*). The Programme's focus includes 100 of the most vulnerable municipalities, strengthening financial and administrative decentralisation initiatives, social safety nets, employment and women's empowerment. The Government of Mauritania provided the majority of the funding (US\$52 million), with a further US\$25 million from the International Development Association (IDA) (Banque Mondiale, 2018).

Another important document guiding development efforts is the 2016–2030 SCAPP, which focuses on integrated resilience building approaches (République Islamique du Mauritanie, 2015).

The current International Development Assistance Country Partnership Framework (2018–2023) has a stronger focus on resilience, environmental protection, decentralisation and climate change adaptation than its previous iteration (World Bank, 2018a). In addition, the announcement of the US\$5 billion World Bank funding to reinforce biodiversity and resilience in the region is a promising development (Banque Mondiale, 2021).

Some investments seek to address vulnerabilities more broadly, rather than directly targeting natural hazard-related disaster resilience. If effective, these could indirectly contribute to the resilience of individuals and social capital. For example, some investments focus specifically on sub-

groups within Mauritanian society, such as women’s empowerment as part of the government (US\$2 million) and IDA (US\$15 million) project, ‘Sahel Women Empowerment and Economic Dividend’ (Banque Mondiale, 2020). New GCF funding streams also exist, focused on local solutions and gender empowerment (GCF, 2019).

Some investments are sector-focused and aim to improve the country’s basic infrastructure. For example, in 2020 the World Bank allocated US\$133 million to improve access to basic services, health, water and sanitation and hygiene infrastructure (World Bank, 2020). A World Bank and Global Partnership for Education Project (totalling US\$36.8 million), the Mauritania Education Support Project, is investing in strengthening the capacities of environmental control, pollution control and environmental emergencies with the oversight of the Ministry of Education (World Bank, 2018b).

Infrastructural investments are also evident at the sub-national level and city level. For example, two dams have been built, in Tarf En Mahroud and Tintiane, with villages regrouped and provided with new public services, infrastructure and affordable housing, including 7,000 new housing units. At the city level, there is a national strategy focusing on the environmental protection of the capital city, Nouakchott (République Islamique de Mauritanie, 2019). The Nouakchott authorities have worked with UNDP and the EU on an Environmental Resilience and Sustainable Development project.

Mauritania invests in a range of risk-transfer, risk-sharing and social protection mechanisms. The government has been an ARC member since 2014 and paid its fee each year (except 2018/2019) (WFP interview, 2021). In 2018, ARC disbursed US\$2.4 million to the Government of Mauritania, which had paid a premium of US\$1.4 million for drought coverage (ARC, n.d.). This was the first international funding received in response to a progressively severe drought, and its timeliness mitigated a rapidly escalating crisis. The funds subsidised livestock feed for pastoralists in the most affected areas.

In March 2020, the World Bank approved new funding to continue supporting Mauritania’s social safety net programme, to the value of US\$52 million (Banque Mondiale, 2020). This new funding builds on the results of the existing social safety programme in Mauritania, and delivers on the ambition to expand the scope, effectiveness and efficiency of the current programmes. The expansion will also seek to reach some of the most vulnerable communities, including Malian refugees in the zone of Hodhs (Banque Mondiale, 2018).

Mauritania is a substantial recipient of climate finance. Three multi-country programmes of the GCF are in the pipeline for Mauritania: the ‘The Africa Integrated Climate Risk Management Programme: building the resilience of smallholder farmers to climate change impacts in 7 Sahelian Countries of the Great Green Wall (GGW)’, the ‘Global Subnational Climate Fund (SnCF Global) – Equity’ and the ‘Global Subnational Climate Fund (SnCF Global) – Technical Assistance (TA) Facility’ (GCF, n.d.). As of May 2021, Mauritania has US\$15.8 million of allocated GCF financing, with US\$3 million for the Green Climate Fund Readiness Project (2019–2022) approved and US\$1.6 million disbursed (GCF, n.d.).

Observations and recommendations

Challenges and barriers

In 2014, there was no dedicated government funding to DRR and climate change policies. A budget line was allocated to Civil Protection and specific DRR activities within the Ministries of Environment,

Health and Agriculture; however, these were mainly funds for administrative costs rather than programme implementation. The Ministry of Finance was aware of the dysfunction (Badji et al., 2014).

There are no specific guidelines or initiatives for the institutionalisation of DRR into inter-sectoral or sectoral programmes. Emergency response continues to be the primary focus of government DRR efforts, while concepts of climate change adaptation and community resilience have become more prominent in the national discourse. This has translated into an ambitious policy framework, backed by large donors such as the World Bank, the GCF, the Adaptation Fund and others. The significant investments for mainstreaming climate change adaptation, including from the GCF, could help to address this limitation, via enhancing technical capacities of climate-related hazards, and could be further maximised if the relevant connections between climate change adaptation and DRR can be made.

In the past, notable efforts have been made to estimate the financing that would be required to enhance and scale up Mauritania's DRR systems. In 2015, CADRI supported the government in the elaboration of the National Capacity Development for Disaster Risk Reduction and Emergency Response Action Plan 2015–2018 (CADRI and République Islamique de Mauritanie, 2015). The Plan, based on the structure of the Hyogo Framework, was only partially costed. The findings of this research suggest that only a few activities were implemented. It should be noted that the Plan was very ambitious and over-arching and may not have fully considered the level of maturity of several accountable institutions and the overall political backing behind its recommendations.

While Mauritania is a major recipient of donor funding, the impact of such investments has been limited. According to the 2016 GCF Readiness Proposal:

Mauritania is one of the largest recipients of donor funding in sub-Saharan Africa, with most projects in the country focusing on agricultural and rural development. Yet despite this assistance, initiatives that have sought to improve rural poverty and promote socio-economic upliftment have had limited success on a national scale. This is partly a result of an ineffective long-term policy framework and guiding strategy for agricultural and pastoral production systems. In addition, many of the interventions that are implemented in Mauritania seek to address either an environmental, social or economic problem, and lack an integrated or inter-sectoral approach. Long-term capacity building – including financial investments, technical assistance and policy support – has therefore not been implemented across all sectors. In addition, many of the baseline projects taking place in Mauritania do not address present and future climate change impacts in the country (GCF, 2018).

Partnerships with the private sector on DRR are limited. This research could find no evidence of any notable initiatives to involve national private partners in preventive and response mechanisms. The absence of a legally based coordination platform around DRR is a key constraint to progress in this area (Former National DRR Focal Point interview, 2021).

Recommendations

(P3 N-1) Design/operationalise national DRR investment plans.

(P3 N-1) Given the prominence of climate change adaptation as a concept, and the vast amounts of finance being directed into the country through climate financing mechanisms, DRR stakeholders

need to be better equipped to advocate for risk reduction and management actions to be part of longer-term climate action. At the same time, climate experts should be targeted with advocacy on the need to build robust national systems for preventing, preparing for, responding to and recovering from disasters linked to climate variability and change. At the global level, UNDP is already well equipped to provide the technical materials required to instigate an awareness-raising programme on these links (given UNDP's role in assessing and supporting stronger connections between climate and disaster governance arrangements, strategies and financing worldwide). The awareness-raising programme should emphasise the importance of enhancing and synergising funding to achieve dual climate and disaster resilience outcomes.

(P3 N-1) The MEDD and Civil Protection revision of the National Capacity Development for Disaster Risk Reduction and Emergency Response Action Plan 2015–2018 (CADRI and République Islamique de Mauritanie, 2015) may benefit from technical support from the UNCT, which the UN should be prepared to provide. Previous analysis of the Action Plan concluded that it may have been over-ambitious. For the new plan, activities could consider the need to boost political backing to DRR, the level of maturity of the institutions accountable for DRR in the country, and importantly the viability of financing. The new Plan would benefit from being costed and have specific accountabilities for sourcing funding within each workstream.

(P3 N-2) Develop/strengthen national disaster risk financing mechanisms.

(P3 N-2) The concepts of DRR and resilience do not appear to be leading themes in Mauritania. This may be partially related to donor funding streams, which are focused on other related areas such as climate change, environmental protection, social protection and decentralisation. This does not necessarily mean that Mauritania is not investing in DRR and disaster recovery; rather, it may mean that investments are directed to other funding streams that are not tagged as DRR. A DRR/climate change adaptation public expenditure review by an independent research agency with experience of conducting such studies could allow the Government of Mauritania to better understand how public finances are organised, to tackle some of the most pressing challenges facing the country that directly and indirectly contribute to each of the Sendai Framework priority areas, and the AU PoA Priority Activities. Using a political economy analysis, the review could seek to not only reveal funding quantities, patterns and use, but also the drivers, barriers, opportunities and incentives for the various funding flows. To be forward-looking, the study could identify potential future national and international funding sources, including opportunities from the various climate funds. This recommendation could usefully be linked to an ongoing project by the Government of Mauritania, UNDP and UNEP titled 'Project for the Achievement and Monitoring of the SCAPP poverty/Environment Objectives and Sectoral Policies in relation to the Sustainable Development Goals in Mauritania'. This project aims to support national institutions to pursue investments in growth in ways that contribute to poverty reduction and the sustainable environmental management with a gender-sensitive lens (UNDP email exchange, 2021).

(P3 N-5) Develop DRM guidelines on safety of schools, health facilities and critical infrastructure.

(P3 N-5) In a collaboration between the Ministries of Health, Education, and Transport, the UNCT could prepare a short proposal to be embedded into the next iteration of the World Bank and/or GCF funding, which explicitly aims to achieve resilience to climate shocks and stresses for the country's schools, health facilities and critical infrastructure. There is a wealth of educational materials and policy guidance worldwide on how to mainstream DRR into school safety, health

facilities and critical infrastructure that can easily be adapted to adopt a more climate-focused framing – which will be needed to access climate funds for this purpose. As an incentive, key delegates from the health, education and transport ministries could be funded to attend the next Africa Regional DRR Platform and Ministerial Conference to showcase their achievements; on the condition that demonstrable progress towards integration has been made.

(P3 N-7) Strengthen DRR knowledge management and practice.

(P3 N-7) Regional and continental entities such as those of the AUC and UNDRR could offer funding for Mauritanian technical experts to attend regional, continental and international professional DRR training opportunities. These can be linked to existing convening processes, such as the regional and Global Platform on Disaster Risk Reduction 2022. Mauritania could also be prioritised to receive training in the areas of risk finance, cost-benefit and return on investment methodologies, and the climate funding landscape.

Priority 4: Enhancing disaster preparedness for effective response and to ‘build back better’ in recovery, rehabilitation and reconstruction

Progress and achievements

The structures and strategies governing emergency preparedness and response have largely remained unchanged since the 2015 baseline, with the notable exception of the Directorate of Civil Protection becoming a Delegation (see Priority 2). The ORSEC is the primary national response planning tool, established by Decree No. 80-087 of 1987. Further adjustments in 2002 (République Islamique du Mauritanie, 2002a; 2002b; 2002c) detailed the functioning of the ORSEC and established the mandate of the Inter-Ministerial Committee for Emergency Situations, chaired by the Prime Minister, and those of the Inter-Ministerial Committee for Emergency Situations (Badji et al., 2014). The Inter-Ministerial Committee is composed of the ministers responsible for emergency response. The Permanent Cell, chaired by the Food Security Commission, is the operational arm of the Inter-Ministerial Council. Its vice presidency is ensured by the Ministry of Interior and Decentralization.

The main guiding response document for the government is the Immediate Response Plan (developed in 2002), which defines the Civil Protection chain of command and operating procedures. COVACC has current operational guidelines and Civil Protection has recruited and trained 130 new staff (as of January 2021), some of whom will be assigned to the operationalisation of the Centre (AFD interview, 2021; Civil Protection interview, 2021).

While there is no multi-hazard preparedness and response plan, Civil Protection took a leading role in developing the 2018 Flood Response Plan (Ministère de l’Intérieur et de la Décentralisation, 2018), the largest and most comprehensive effort to organise multiple partners, including UN agencies and the Mauritanian Red Crescent, under the same guiding document. The existence of this Plan indicates progress in several areas, compared with the baseline, including cooperation among national and international partners, and accountabilities of sub-national entities for emergency response.

Although there is limited tangible evidence that emergency preparedness has improved in Mauritania since 2015 (as focus remains on response), the development of the 2018 Flood Plan (Ministère de l’Intérieur et de la Décentralisation, 2018), the 2019 Contingency Plan for Hodh Ech

Chargui (IOM interview, 2021) and the government multisectoral response plan for COVID-19 (UNICEF, 2021) have contributed to the involvement of a broad range of development and humanitarian partners in the planning and response phases of emergency response action.

The food security, met services, locust control, epidemic control and flood alert systems have community outreach mechanisms with varying degrees of effectiveness. Further research on the level of community access and use of early warning information would be valuable to help inform the design of future risk communication investments.

Finally, the professional education and training opportunities created in recent years focus on environmental protection, climate change and epidemic management, among other themes. The list of the most relevant opportunities is included under P1 N-8.

Observations and recommendations

Challenges and barriers

At the time of the baseline, the provisions in the ORSEC plans were a source of confusion, at times contradicting the mandates and protocols established by the 2002 Decrees (République Islamique du Mauritanie, 2002a; 2002b; 2002c). The conflicting institutional mandates further undermined the efficiency of the local response systems (Badji et al., 2014). Further, given that floods are the primary disaster risk in Mauritania, the absence of Civil Protection in the top-level organisation of emergency response was the cause of institutional confusion (Badji et al., 2014).

It is reasonable to conclude that there is no functioning multi-hazard national strategy or plan for preparedness and response currently in operation. The recommendations of the National Capacity Development for Disaster Risk Reduction and Emergency Response Action Plan (2015–2018) (CADRI and République Islamique de Mauritanie, 2015) remain valid in 2021.

The concept of disaster recovery is not yet articulated in Mauritania's policies and practices. This can be seen in the lack of reference to 'building back better' and mainstreaming resilience-building investments in areas at risk of disasters. The sectoral components of the Immediate Response Plan are not adequately detailed, as noted in the Joint External Evaluation (WHO, 2017), which also recommended the development of a specific multi-hazard public health emergency and response plan.

According to informants, regional first-response capacities are still extremely limited, due to lack of allocation of specific and predictable financial resources from the national to the regional levels (AFD interview, 2021; IOM interview, 2021).

No evidence was found to describe progress around the mobilisation of civil society in emergency management since the 2015 baseline; this is an area in need of empirical research. There is also no evidence that gender or other intersectional dimensions are being systematically considered in crisis decision-making and humanitarian response.

Finally, accessing sustained financing that is sufficient to support a wholesale transition from a response-based DRM system to one focused on prevention, preparedness and risk reduction, is an ongoing challenge. Preparedness activities and the general coordination of humanitarian funding continue to be largely based on ad hoc requests (mainly for equipment and supplies), with UN agencies and other partners supporting the Delegation of Civil Protection with capacity-building and technical support. Average bilateral and multi-lateral humanitarian aid contributions between 2016

and 2020 totalled US\$55 million (UN OCHA, 2021). However, in 2019, the UN noted that humanitarian aid was not sufficient to cover humanitarian appeals. In 2016, for example, only 26% of the humanitarian appeal was funded (Humanitarian Response, 2019).

Some evidence of more flexible programming within Mauritania offers hope for the strengthening of the humanitarian–development transition. The CPDD 2018–2022, for example, promotes the integration of development and humanitarian planning of UN agencies and six international NGOs (Humanitarian Response, 2019). The flexibility in planning and resource allocation of the Framework allows for the development and humanitarian funding streams to adapt to peaks in humanitarian needs. This mechanism is particularly adapted to the cyclical nature of climate-related hazards in Mauritania, and it strives to adhere to the principles of recovery.

Recommendations

(P4 N-1) Strengthen multi-hazard EWS.

(P4 N-1) A much more systematic approach to strengthening EWS outreach to local communities is required, given the limitations identified in the CADRI report (Badji et al., 2014); wherein weather forecasts and predicted disasters were not effectively reaching local communities. Linking with the Mauritanian Red Crescent outreach capacities, and potentially in conjunction with the GNDR national monitoring processes, grounded empirical research could be commissioned to elucidate the quality, reach and impact of current preparedness and response communications and outreach to local communities. The findings could directly feed into bilateral and multilateral donor investment and project design processes, and they could inform decision-making related to the extensive financial investments being made from climate funds. The findings could help the latter to be directed towards establishing EWS and alert systems for climate hazards, as well as extending local knowledge of both slow-onset and sudden-onset climate risks.

(P4 N-2) Develop national preparedness and response strategies incorporating gender and ‘build back better’.

(P4 N-2) Efforts to establish and enhance gender and intersectional preparedness, response and recovery actions could be pursued under the current body of evidence from other countries that details the additional vulnerabilities and burdens caused by climate change, particularly on women and young girls. If DRR and climate change adaptation become more cohesive, integration of gender sensitivity into climate change adaptation programmes should have a trickledown impact on the overall level of awareness of DRR and climate change adaptation stakeholders to gender sensitivities. Specifically, UN Women and UN OCHA could collaborate to integrate the UN OCHA Gender Marker (or similar indicators and tools) (UN OCHA, n.d.) as conditionalities for future climate investments. This would need to be tracked, ideally through the designation of a focal point within the UNCT, and it would require an institutional home within the government. Finally, lessons from the GCF-funded initiatives, which include a gender assessment and a gender action plan, should be shared in a learning forum in Nouakchott with the aim to inspire UN, NGO and CSO project managers overseeing resilience programmes to include similar tools and processes in the design of their projects.

(P4 N-3) Create/strengthen national preparedness and response institutions.

(P4 N-3) Based on the political backing potentially secured through the peer review process recommended under Priority 1, Civil Protection could identify the specific investments needed to

speed up the activation of the COVACC. These investments could be detailed in a structured capacity development plan, to form part of the broader National Capacity Development for Disaster Risk Reduction and Emergency Response Action Plan, as recommended under Priority 3. This would also need to be complemented by a process led by Civil Protection to convene all relevant parties to support the revision of the ORSEC, with the objective of detailing the specific sectoral accountabilities of state entities and international partners, from the national level to the municipal level.

(P4 N-3) As part of the assessment recommended on empowerment of community resilience programmes (see Priority 2), research could be commissioned to identify the most successful programmes focusing on leveraging communities' traditional emergency preparedness and response practices. This research would benefit from being based on an inclusive and reflective process where affected communities share their experiences, views and lessons on what works in community engagement and impact. Subsequently, the possibility of a nationally led pilot programme could be explored to identify best practices in community empowerment for emergency management. These best practices could be applied in the CPDD 2018–2022, which has a strong focus on community empowerment.

(P4 N-4) Develop comprehensive preparedness and response plans.

(P4 N-4) WHO (2017) has previously recommended the development of a specific multi-health public health emergency and response plan. Capitalising on the availability of external donor funding for post-COVID-19 recovery processes, the government, in collaboration with the UNCT, could attempt to secure funding to enable this recommendation to be pursued and extended to include elements of recovery.

(P4 N-6) Facilitate partnerships to mobilise humanitarian funding.

(P4 N-6) Civil Protection, with support as required from UN agencies, could consider assessing the capacities of the most at-risk *wilayas* to efficiently coordinate sub-national humanitarian action. Sub-national authorities (*wilayas*) are effectively responsible for emergency response; however, several informants note that they have very limited resources to coordinate partners and materially support affected populations (IOM, UNICEF, AFD and Former DRR Focal Point interviews, 2021). The suggested assessment would support the identification of urgent areas for investments and the inclusion of tailored capacity-building in the national DRR Plan recommended under Priority 3. It should aim to identify the specific financial allocations needed to address the sub-national bottlenecks. This recommendation could be usefully linked to the ongoing Sahel Resilience Project, given its collaboration with the Government of Mauritania in assessing the technical and operational needs of different response services as well as the needs of the population and communities.

Chapter 7: Niger

Reader's guide:

- This section briefly describes the risk profile of Niger before summarising the progress and achievements made, and barriers and constraints, for each of the four priority areas of the African Union Programme of Action (AU PoA) (which mirror the four areas of the Sendai Framework).
- For each of the four priority areas, the summary of progress, challenges and barriers *specifically reflect* the Priority Activities from the AU PoA implementation matrix (see Chapter 1).
- Detailed recommendations are provided for each priority area, linked to the specific AU PoA Priority Activities. The coding system described in Chapter 1 is employed to help readers connect the recommendations to the AU PoA Priority Activities.
- Although specific national recommendations are provided, readers are encouraged to adapt the recommendations to other countries, as appropriate.
- Further details of Niger's progress on disaster recovery are included in Chapter 11.
- Details of the methodology (primary and secondary evidence collection and analysis) that informed this chapter can be found in Chapter 1 and Annex 4.
- Acronyms are written in full the first time they are used within the chapter.
- Chapter bibliographies are included at the end of the report, which are further separated into the general overview for each country followed by the priority areas.

General overview

The Republic of Niger is a vast landlocked country in the heart of the Sahel region with a population of over 23 million (World Bank, 2021). Over two-thirds of the country is desert, with 85% of the total area receiving annual rainfall of less than 350mm (MAH/GC, 2018). Niger's climate is dry and tropical with a short rainy season from June to September (MAG/EL, 2016). The country is heavily reliant on agriculture and livestock breeding, which account for 40% of its gross domestic product (GDP) and provide livelihoods for most of its inhabitants (MAH/GC, 2019; World Bank, 2020). Approximately 80% of the population lives in rural areas (MAH/GC, 2019).

Niger is a semi-presidential republic. The country is divided into eight regions and 66 departments (Institut National de Statistique de Niger, 2020). Lack of economic diversification and a high annual demographic growth (3.8% in 2019) has left the country vulnerable to a range of shocks and stresses (World Bank, n.d.; 2020) As one of the least developed countries in the world, Niger's average per capita annual income is US\$553.90 (World Bank, n.d.). Nonetheless, driven by agriculture and infrastructure construction, recent economic growth has been robust and was estimated at 6.3% for 2019 (World Bank, 2020). Despite these positive trends, the country continues to face acute challenges, however, including extreme poverty (41.4% of the population in 2019) (World Bank, 2020). Youth unemployment was estimated at 16.6% in 2017 (World Bank, 2020). Subsistence is highly dependent on seasonal rainfall with south-western agricultural areas frequently affected by droughts and floods (GFDRR, n.d.; 2019). More than 20% of the population is estimated to be vulnerable to food insecurity (MAH/GC, 2019).

Niger ranks last on the Human Development Index 2020 at position 189 (UNDP, 2020). As it has sought to reduce poverty, the country has grappled with instability arising from ongoing conflicts in neighbouring Libya and Mali (MAH/GC, 2019). Continued attacks from the armed group Boko Haram in Diffa and the Lake Chad Basin region have further destabilised Niger (MAH/GC, 2019). In 2020, the country scored 95.3 out of 120 on the Fragile States Index and ranked 159 out of 178 countries (Fragile States Index, n.d.).

Economic growth is likely to be strained by the COVID-19 pandemic, as Niger remains vulnerable to commodity price fluctuations (World Bank, 2020). Deteriorating security conditions, together with environmental degradation, are likely to result in growing numbers of displaced populations that pose a threat to Niger's stability (MAH/GC, 2019). Poor agricultural practices also threaten to aggravate the risks posed by climate change and undermine poverty reduction efforts (MAH/GC, 2019).

Risk profile

Niger is exposed to a range of hydrometeorological, environmental, biological and societal hazards. These include droughts, floods, epidemics and epizootics, fires, locust invasions and social conflicts (République du Niger, 2017; MAH/GC, 2019). Indicators suggest extreme vulnerability, high exposure and a worrying lack of coping and adaptive capacities, particularly in the regions of Diffa and Tillabéri, which are classified as 'very high risk' by the INFORM index (UN OCHA, 2020a).

Alternating between drought and heavy rainfall, Niger's highly variable climate puts it at risk of natural hazard-related disasters (CADRI and République du Niger, 2014). Unequal spatial-temporal distribution of water resources has been identified as a key risk factor and the cause of extreme weather events, with alternating periods of torrential rain (2010), drought (2011) and unprecedented flooding (2012) (CADRI and République du Niger, 2014 and 2015; GFDRR, 2019). Niger has faced increasingly frequent disasters: over a 40-year period (1973–2013), an estimated 3,702 disasters occurred, resulting in average annual losses estimated at more than 40 billion CFA francs (République du Niger, 2017). Food and nutritional crises over the last decade have affected more than half the population of Niger and have caused major population displacements, whilst lack of grazing, heavy rainfall and flooding have resulted in substantial agricultural deficits and losses of livestock (MAH/GC, 2019).

Hydrometeorological hazard-related disasters

Niger is exposed to a range of hydrometeorological and climate-induced hazards. While one-third of the country's surface area (which is home to 40% of the population) is subject to flooding, the eastern part of the country suffers from limited rainfall (GFDRR, 2019). Uneven distribution of water resources makes Niger particularly at risk of droughts, which affect up to 4 million people a year across the country (GFDRR, 2019). Predominantly occurring in Niger's south-western regions, floods affect approximately 100,000 people annually, while landslide hazards remain generally low and very localised (GFDRR, 2019). The areas most affected by hydrometeorological hazards are Tillabéri (in the west) and Dogondoutch (in the south) (MAH/GC, 2019).

The country is highly exposed and vulnerable to the adverse effects of climate change. Temperature rises, increasing variability in annual rainfall in the Sahel and the increase in magnitude of extreme weather events are all concerning for the country's development and food security (GFDRR, 2019).

Niger has experienced frequent episodes of hydrological and agricultural droughts in recent years (GFDRR, 2019). Water deficits mostly occur in the Agadez region in north-eastern Niger, whilst the areas of Maradi, Zinder and Tahoua are at risk of agricultural droughts (lack of rainfall impacting crops) (GFDRR, 2019). Sustained dry periods and late onset of rainfall are key causes of yield losses and crop failures across the country (Banque Mondiale, 2013). Drought conditions adversely affect soil quality and result in low agricultural and livestock productivity (GFDRR, n.d.). The impact of agricultural income loss has been estimated at an average of US\$15 million annually (GFDRR, 2019). Droughts have become increasingly frequent and now seem to occur every 3 years, rather than every 10 years as was previously the case (MAH/GC, 2019).

Land along the Niger River and its tributaries (Mékrou River, Dallol Bosso River, Tapoa River) is particularly prone to flooding (GFDRR, 2019). Major flooding events are recorded every year in the country, particularly in Agadez, Maradi, Diffa and Dosso, causing considerable damage to crops, livestock and infrastructure (GFDRR, 2019; MAH/GC, 2019). According to the DesInventar database (a free, open-source disaster information management system), over 130,000 ha of crops have been destroyed by floods, affecting an estimated 1.3 million people over the last decade (GFDRR, 2019). In Tiffa and Tillabéri, damage to buildings has been substantial, with education and health facilities damaged (GFDRR, 2019). Flooding caused important human and material losses in 2012 and 2017 (République du Niger and PNUD, 2018; GFDRR, 2019).

In 2012, the 'worst flooding in more than 80 years' killed 300, injured 6,000 and affected 4 million people in Niger (Oxfam, 2012; GFDRR, 2019). The 2017 floods affected over 200,000 people and caused damage and losses estimated at more than CFA 6 billion (approximately US\$12 million) (République du Niger and PNUD, 2018). Inadequate land-use planning policy partly explains the losses, with increasing numbers of people settling in flood-prone areas (République du Niger, 2017). The adverse effects of climate change and the pronounced degradation of soils are likely to intensify flood-related hazards in the future (République du Niger, 2017).

Niger's relatively flat topography makes it only marginally susceptible to landslide geohazards. Only areas such as the Air Mountains and the Djado Plateau are at moderate or high risk of landslides (GFDRR, 2019). Landslides remain an extremely localised threat that, on average, only affects 20 people annually (GFDRR, 2019). However, recent urbanisation has caused deforestation and construction on slopes that are likely to make areas in the south at risk of moderate landslides when heavy rainfall occurs (GFDRR, 2019).

Environmental hazard-related disasters

Niger is prone to environmental hazards, such as land degradation, deforestation and bush fires. Already vulnerable to cyclical phenomena, subsistence crops and livestock are further endangered by human-induced environmental pressures. Insufficient land-use planning policy and inappropriate agricultural techniques exacerbate the pressure on natural resources, while the effects of climate change are likely to aggravate soil degradation (République du Niger, 2017; MAH/GC, 2019). Niger faced severe food crises in 2001, 2005, 2009, 2011–2012 and 2017 (GFDRR, 2019). Over 1.5 million people required emergency food assistance following the 2017 droughts, whilst previous episodes (2011) had already left millions vulnerable to food insecurity (GFDRR, 2019). Unsustainable land-use practices also contributes to pollution (République du Niger, 2017).

Biological hazard-related disasters

Pests are a major threat to the country's agricultural output: ecosystems are at risk of the spread of parasites and invasive species, while livestock suffer from epidemics of zoonoses. Attacks by locusts, grasshoppers, rodents, caterpillars, or even granivorous birds, have reportedly damaged over 1.6 million hectares of crops (MAH/GC, 2019). Locust invasions frequently damage national agricultural production, resulting in significant losses of arable land – estimated at 6.5 tonnes/ha/year (MAH/GC, 2020). Seasonal desert winds tend to facilitate the rapid dispersal of swarms, which then attack crops and pastures. In 2003–2005, a major locust attack damaged 35% of tree crops and 90% of pastures; this resulted in acute food insecurity that affected 3.5 million people (MAH/GC, 2020). Niger has also experienced frequent pastoral crises in the past decade (2009, 2011, 2013 and 2014) (MAG/EL, 2016).

Scarce access to drinking water is largely to blame for precarious sanitary conditions and high rates of malnutrition (République du Niger, 2015). Niger is particularly at risk of cholera and meningitis, which have killed more than 10,000 people since 1973 (MAH/GC, 2019). Poor water quality and sanitation contribute to outbreaks of cholera (WHO, 2018). With Niger currently exposed and vulnerable to the COVID-19 pandemic, ensuring adequate sanitation infrastructures and the availability of water remain critical issues (UN OCHA, 2020b).

Since it reported its first case on 19 March 2020, the country has seen the rapid spread of COVID-19 (UN OCHA, 2020b). According to the worst-case scenario, the epidemic could affect up to 16 million Nigeriens, with refugees and internally displaced persons (IDPs) especially at risk (UN OCHA, 2020b). As of 25 August 2021, the country had 5,770 confirmed cases of COVID-19, with 196 deaths (WHO, 2021). By 23 August 2021, a total of 490,549 vaccine doses had been administered (WHO, 2021). The measures put in place to limit the spread of the virus also restricted access to food (UN OCHA, 2021). In 2020, the country also experienced outbreaks of measles, vaccine-derived poliomyelitis virus type 2 and malaria (UN OCHA, 2021). Restriction measures targeting COVID-19 limited humanitarian access and health services for people in need (UN OCHA, 2021).

Societal hazard-related disasters

Niger has experienced repeated political instability, as the country has grappled with tumult in the Tuareg region since the early 1990s. Since the country's independence, four coups have occurred: in 1974, 1996, 1999 and 2010 (Banque Mondiale, 2013).

Security remains an ongoing challenge for Niger, as was revealed by the 2016 presidential and legislative elections that sparked episodes of social violence (MAG/EL, 2016). Conflicts and socio-political tensions thrive in the Lake Chad Basin region and at the border with Mali and Burkina Faso (MAG/EL, 2016). Activities by non-state armed militias have intensified in recent decades, leading to an increase in the number of IDPs (UN OCHA, 2020b).

Niger is host to large numbers of Algerian, Libyan, Malian and Nigerian refugees (MAG/EL; World Bank, 2020). The regions of Tahoua, Tillabéri, Maradi and Diffa have had to deal with a significant influx of refugees fleeing conflict in the region (UN OCHA, 2020b; World Bank, 2020). According to the United Nations High Commissioner for Refugees (UNHCR), 221,671 refugees and 196,717 displaced persons were living in Diffa and Maradi in April 2019 (World Bank, 2020). In the context of the COVID-19 pandemic, security issues in certain areas at the Niger-Nigeria border strip or in

regions adjacent to Burkina Faso and Mali are of particular concern, as they have led to the suspension of activities by various humanitarian organisations (UN OCHA, 2020b).

Priority 1: Understanding disaster risk

Progress and achievements

Knowledge of disaster risks has improved significantly across Niger since the 2015 baseline. Progress has been made in understanding hazards, identifying and monitoring vulnerabilities, developing alert mechanisms and raising awareness. Information pertaining to disasters is centralised in the Desinventar database (DesInventar, n.d.), which was last updated in 2018. Monitored hazards are drought, floods, locust plagues, epidemics, epizootics, bushfires, social crises and accidents. A National Focal Point is responsible for uploading data to DesInventar and has received training to do so. A Multi-Risk Atlas was developed in 2018 to provide an inventory of all risks across the country. It was developed with the support of the United Nations Development Programme (UNDP) with the intention of being managed by the Ministry of Humanitarian Action and Disaster Risk Management (*Ministère de l'Action Humanitaire et de la gestion des Catastrophes*, MAH/GC) (UNDP interview, 2021). In 2019, the World Bank published a disaster risk profile for Niger focused on droughts, floods and landslides (GFDRR, 2019).

Hazard data collection and risk profiling has been supported by legislation and regulations that adopt relatively consistent terminology, based on global standards adapted to the Nigerien context. For example, Act no. 2017-006 of 31 March 2017 (République du Niger, 2017a) defines the principles for civil protection and includes an update on definitions of concepts. Decree no. 2018-538/PRN/MISP/D/ACR of 27 July 2018 (République du Niger, 2018a) and Joint Order no. 00879/MISPD/ACR/MT/MHA/MAH/GC/MC/MSP/ME/U/DD of 16 September 2019 (République du Niger, 2019a) define the national alert codes and have been adopted by all stakeholders involved in early warning systems (EWS).

Routine monitoring of hazards is undertaken on a sector-by-sector basis. For example, hydrometeorological risk mapping is updated annually before the start of the winter season by the Directorate of National Meteorology (DNM) (DNM interview, 2021). Within the DNM, efforts are underway as part of the Climate Risk and Early Warning Systems (CREWS) project to improve the density of the observation network, through the rehabilitation of climate stations, creation of eight regional centres for hazard observation, installation of automatic stations, training of forecasters and meteorologists, and recruitment of new staff (DNM interview, 2021).

A range of databases exist that collate hazard monitoring information. For example, DNM houses several hazard databases, including the ANADIA flood database and a climatology database (*Cellule de Coordination du Système d'Alerte Précoce et de Prévention des Catastrophes* (CC/SAP/PC) interview, 2021). A geographic information system (GIS) database called Platform for Access to Data on Risks and the Environment (*Plateforme d'Accès aux Données sur les Risques et l'Environnement*, PADRE) hosts data for Niger and neighbouring countries, which has been taken over by the Ministry of Humanitarian Action and Disaster Management (*Ministère de l'Action Humanitaire et de la Gestion des Catastrophes*, MAH/GC) with support from CREWS – although it is unclear whether this is currently active (CREWS, 2020a; 2020b). Moreover, as part of the CREWS project and the Adaptive Social Protection Project (ASPIRE), DNM technicians and members of the DNM have been trained to use various databases (CREWS, 2020a; 2020b; Red Cross Red Crescent Climate Centre email exchange, 2021).

At the time of the baseline, epidemiological risks were being collated by one individual within the Ministry of Health and thus the database was under-utilised and was not reliable enough to be used to inform decision-making; moreover, when the individual was absent the system was stagnant (CADRI and République du Niger, 2014).

There is currently no multi-hazard risk communication plan; however, there are plans to develop a disaster risk reduction (DRR) communication plan as part of the UNDP's Capacity Building for Resilient Development Project (UNDP interview, 2021). There are reports (although difficult to verify) of partnership agreements being set up to share risk information, raise awareness and provide alerts via SMS, radio and television (DNM interview, 2021). There are also hazard- and sector-specific risk communications. For example, DNM provides climate services such as period bulletins, which are publicly available and free of charge via its website (DNM interview, 2021). At the community level, information on climate and responses to climate shocks is disseminated via a decentralised communication channel, the Community-Based Early Warning and Emergency Response System (*Systèmes Communautaires d'Alerte Précoce et de Réponses en situation d'Urgence, SCAP-RU*) (Giordano and Ellina, 2018; for more on SCAP-RU, see Priority Actions 2 and 4).

At the time of the 2015 baseline, the key DRR stakeholders interviewed were not aware of any post-disaster needs assessments (PDNA) having been carried out. However, in February 2017, following severe flooding, the Government of Niger conducted a PDNA with support from UNDP, and post-flood recovery plans for the regions of Dosso, Aradi and Niamey were developed (République du Niger and PNUD, 2018). Following this, between 2017 and 2019, two training sessions were held to form a group of national experts on PDNA and funding was sought for future research (UNDP interview, 2021).

Niger has made progress in integrating DRR into formal education and training provision. The General Directorate of Civil Protection (*Direction Générale de la Protection Civile, DGPC*) has established a National School of Civil Protection to deliver diplomas certified by the Ministry of Education. The school was inaugurated in 2017 and classes began in March 2018. To date, 70 executives have been trained, with a further 51 graduates expected in November 2021 (DGPC interview, 2021). At the primary level, a strategy was developed in 2019 to promote the integration of DRR-related training into the national school curriculum (MEP/A/PLN/EC, 2019).

Technical capacity-building is also underway with the support of development partners such as CREWS. For example, funding has been provided for agro-meteorologists to undergo training at the R-Instat and to develop crop calendars (DNM interview, 2021). CREWS is also planning training on short- and medium-term weather forecasting, and on the dissemination of weather and hydrological data and information (DNM interview, 2021). Scientific capacity has been developed, with the African Centre of Meteorological Application for Development (ACMAD) developing a Weather Research and Forecasting Model for DNM using computer modelling to produce weather forecasting and atmospheric simulations (DNM interview, 2021).

To increase risk awareness, an established network of over 50 radio stations broadcast weather information and seasonal forecasts and explain the implications for key livelihoods. Campaigns have been carried out on a range of topics, including agricultural sustainability (DNM interview, 2021). In recent years, new methods have been employed to share risk information, such as pre-recorded communications, text messages and WhatsApp voice messages in local languages to target rural

populations – such innovations have been delivered in the context of individual projects funded by external donors (DNM interview, 2021).

Observations and recommendations

Challenges and limitations

Individual efforts to improve hazard and risk knowledge require continued engagement. For example, efforts to develop the Multi-Risk Atlas are ongoing and require handover to the MAH/GC, while opportunities for this to become open source should be investigated (UNDP interview, 2021). National stakeholders will need training to learn to use the Atlas effectively in risk-informed decision-making (UNDP interview, 2021).

Despite the progress in risk monitoring and assessing hazards across the country, notable gaps in coverage remain, particularly in areas where active armed conflict and violence are prevalent. This includes, for example, areas in the western region (Tillabéri) and the east of the country (Diffa) where assessment and profiling of hazards are very limited on the ground (CC/SAP/PC interview, 2021).

At the time of the 2015 baseline there were notable efforts to better assess the capacity needs and constraints in the country, with an evaluation of national capacities on DRR (CADRI and République du Niger, 2014) and the corresponding National Plan of Action for Capacity Development in Disaster Risk Reduction as a collaboration between the Government of Niger and the United Nations Country Team (UNCT) (CADRI and République du Niger, 2015). However, DRR stakeholders report that this has not been taken forward due to lack of funding. This should be addressed, not least because disaster recovery requires strengthening in Niger, but also because of the dangers involved in designing plans that are not brought to fruition, namely complacency over the need to deliver on commitments made during planning processes and a lack of trust that future plans will result in tangible change.

Despite efforts on extending the integration of DRR into the formal education system, the African Union Commission (AUC) biennial report considered the progress achieved up to 2018 as of ‘limited achievement’ for Niger relative to other countries (AUC, 2020) – thus, further investment of political commitment to achieve full integration into the educational system at all levels is required.

Recommendations

(P1 N-1) Mobilise resources for profiling, monitoring and assessing disaster risks.

(P1 N-1) The challenges in collecting and verifying hazard monitoring and assessment data in contexts where insecurity prevents or limits empirical research present obvious limitations to ensuring full coverage of disaster risk information. Satellite technologies are sometimes used to overcome this challenge, as are scientific models. However, guidance is needed to support government departments and DRR stakeholders to better understand how to address these challenges, and how to devise methods to bolster data gaps where they may be present – notably in the west and east of Niger. This is particularly important given the evidence around disaster vulnerabilities being higher in contexts where insecurity, violence and armed conflict are present (Peters, 2019).

Establishing or, in some cases, rebuilding hazard data collection mechanisms should be considered a priority to ensure full coverage and to support effective disaster risk management (DRM) and EWS

(Mason et al., 2015). Lessons from the challenges of accessing climate data in fragile contexts could also inform the development of DRM risk profiling. This includes: rebuilding weather stations destroyed by conflict; enhancing technical capacity of sub-national staff; negotiating flexible arrangements for external aid to support these efforts; and collaboration between meteorological services and peace builders to gather and restore historical data sets (Mason et al., 2015). Along with a sub-set of other countries from across the Sahel, Niger may want to consider being part of a new initiative to learn from, develop new and refine approaches to data collection and assessment in fragile contexts. The DNM, MAH/GC, CREWS and UNDP would be well placed to lead this initiative.

(P1 N-2) Establish/strengthen technical structures for risk surveillance and assessment.

(P1 N-2) The Government of Niger in collaboration with DRR partners from the UNCT, in collaboration with the Capacity for Disaster Reduction Initiative (CADRI), may want to consider reviewing the CADRI evaluation and the 2015 National Plan of Action for Capacity Development in Disaster Risk Reduction (CADRI and République du Niger, 2014; 2015) to assess what remains relevant and to focus attention on devising a financing plan for a sub-set of priority actions. Considering the current economic downturn due to COVID-19, and the repercussions on external aid, effort could be made to embed funding for capacity-building into areas where there is funding available, namely as part of COVID-19 recovery packages and climate investments. Work has already been undertaken globally to make the case for DRM to be integrated into COVID-19 response packages (see Quevedo et al., 2020), and this material can be used for advocacy to donors to champion more holistic approaches to improving health and DRM systems as part of their COVID-19 recovery packages.

(P1 N-3) Harmonise risk and warning definitions and concepts.

(P1 N-3) To help ensure that Niger continues to use the latest hazard definitions and classifications, the International Science Council (ISC), United Nations Office for Disaster Risk Reduction (UNDRR), and the Africa Science and Technology Group (AfSTAG) should consider presenting the findings from the recent review of hazard terminology and support discussions on whether and how these differ from those currently being employed by DRR stakeholders. Ideally, the presentation would be accompanied by a commitment to adopt or adapt the latest guidelines (ISC and UNDRR, 2019) – as these will inform global narratives on disaster risk and the Sendai Framework monitoring processes. As recommended for other countries in this report, inspirational talks by representatives of the Technical Working Group could be integrated into the webinars, to generate interest in moving towards more harmonised definitions and classifications, and to lay the foundation for conversations about creating interoperable hazard and DRM systems.

(P1 N-4) Establish/strengthen DRR databases.

(P1 N-4) UNDRR, as part of its routine engagement with National DRR Focal Points, could consider offering supplementary training to focal points on specific areas. This includes, for example, responding to the request for further training on DesInventar. Building on this, given that Niger reports on DesInventar while many of the countries in this study do not, the National Focal Point should be supported to become a champion for the region to encourage greater engagement across the Sahel. This would include being supported to share their experiences of reporting, the process for data collection and analysis, and the benefits of having Niger represented on the platform. An obvious starting point for this would be for UNDRR to provide space for such a discussion within the

upcoming Africa Regional Platform on Disaster Risk Reduction, with mentoring and training support provided to the Niger national Focal Point for DRR well in advance.

(P1 N-6) Operationalise post-disaster damage, loss and impact assessments.

(P1 N-6) Building on the development of the post-flood recovery plan in 2017 (République du Niger and PNUD, 2018), and follow-up training in 2017–2019, UNDP is well placed to continue to engage in disaster recovery issues across the country, expanding the range of hazards where disaster recovery plans are discussed and designed. To overcome the limitations of the post-flood experiences, flexible funding should be sought by DRR actors in advance so that if/when a disaster occurs, the post-disaster recovery plan can be delivered, thus providing motivation and renewed trust in the process. This will likely require a new flexible funding arrangement with one of the main bilateral donors in Niger, such as the French Development Agency (*Agence Française de Développement*, AFD) among others, and could be pitched as an opportunity to trial a new and innovative way of working that bridges the humanitarian–development divide. If effective, this trial could be rolled out to other hazards across additional countries in the Sahelian region, focusing on contexts where UNDP has already invested in foundational elements of disaster recovery, such as one-off PDNAs and trainings.

(P1 N-7) Integrate DRR in education and training.

(P1 N-7) Given the lack of formal integration of DRR into the education system across many countries in this report, Sahelian leadership in this area is important. There may also be value in establishing stronger collaborations between the Government of Niger, Ministry of Education and DRR institutions such as Partners Enhancing Resilience for People Exposed to Risk (PeriPeri U) to extend the inclusion of DRR into the secondary curriculum, adapting pre-existing materials from other countries to the Nigerien context, while also expanding its membership to more universities, especially from francophone West Africa. Although at a nascent stage, collaboration with other countries in the region may provide the Government of Niger with incentive to ensure that the commitments made by the Ministry of Education are fulfilled.

(P1 N-9) Mobilise awareness-raising and advocacy initiatives.

(P1 N-9) Priority should be given to assess the success of efforts to disseminate risk information at the local level. Knowledge on disasters has increased since 2015 at the institutional level, but there remain concerns over the low levels of understanding and awareness of risks at the local level, particularly in rural areas. Although citizens are increasingly conscious of the death toll of disasters and their impact on livelihoods and infrastructure (especially regarding floods and recurrent droughts), levels of understanding of risk creation, risk reduction and future trajectories of risk are insufficient to establish a long-term culture of risk, build resilience and ensure sustainable recovery – or to demand better, more risk-informed decisions from their elected representatives. Because aspects of risk communication are fragmented across different projects, sectors and initiatives, a thorough ‘DRR risk communication’ review should be commissioned to better understand the landscape of current efforts – including those that form part of food security, agriculture and climate change initiatives – to identify gaps in risk communication, and to assess the impact of different mediums of transmission. If conducted as a participatory process, a small group of interested risk communication stakeholders could convene regularly to devise a plan to campaign for the development of a national DRR communication strategy. To support this process, UNDRR could provide examples of good practice from other countries across the continent.

Priority 2: Strengthening disaster risk governance to manage disaster risk

Progress and achievements

Niger has a well-established legal and policy landscape for disaster risk. The National Directorate for the Prevention and Management of Disasters and Food Crises (*Dispositif National de Prévention et de Gestion des Catastrophes et des Crises Alimentaires*, DNPGCCA), under the Prime Minister's Office, was established in 1989 and has historically been charged with coordinating DRM (Banque Mondiale, 2013; UNDP, 2016 and 2019). The annual Support Plan to Vulnerable Populations (PSPV) is used to plan and schedule interventions for vulnerable people during food crises and natural-hazard related disasters (UNDP, 2019; DNPGCCA, 2021). The National Directorate also covers EWS, prevention, social safety nets and humanitarian aid coordination, and coordinates information collection and dissemination at the national and regional levels (UNDP, 2019). The MAH/GC was established in May 2016 to coordinate humanitarian aid and support to those displaced by conflict and floods (UNDP, 2019; MAH/GC, 2020a). This Ministry co-exists alongside the DNPGCCA, following a reorganisation that saw disaster and crisis management removed from the DNPGCCA, which became the National Directorate for the Prevention and Management of Food Crises (*Dispositif National de Prévention et de Gestion des Crises Alimentaires*, DNPGCCA) (UNDP, 2016; République du Niger, 2017b; 2018b) – nevertheless, both names appear on documents post-2016 (see, for example, ARC and Republic of Niger, 2019).

The DNPGCCA includes several consultation committees, such as the Joint Consultation Committee (CMC), chaired by the Prime Minister; the Steering Committee for Consultation (CRC), chaired by the Prime Minister's Chief of Staff; and the Extended Consultation Committee (ECC), chaired by the Permanent Secretary of the DNPGCCA (ARC and the Republic of Niger, 2019; UNDP, 2019). Key stakeholders involved in the DNPGCCA include the Food Crisis Unit (*Cellule Crises Alimentaires*); the National Grain Storage Agency (*Office de Produits Vivriers du Niger*); the interdisciplinary working groups for EWS (*Système d'Alerte Précoce*, SAP) and the Food Crisis Unit; the Regional Committee for the Prevention and Management of Food Crises (*Comité Régional de Prévention et Gestion des Crises Alimentaires*) and the Sub-Regional Committee for the Prevention and Management of Food Crises (*Comité Sub-Régional de Prévention et Gestion des Crises Alimentaires*); and, at the municipality and village level, the Vulnerability Monitoring Observatories (*Observatoires de Suivi de la Vulnérabilité*, OSV) and the SCAP-RU, which were established in the late 1990s and formally integrated in the EWS from 2012 (ARC and Republic of Niger, 2016; IRAM, 2019). The OSV is chaired by the mayor and comprises key municipal technical services, such as agriculture, livestock and environment, as well as municipal councillors, local civil society organisations (CSOs) and traditional authorities; the SCAP-RU consists of 12-member committees (Giordano and Ellina, 2018).

The National Disaster Risk Reduction Strategy (NDRRS) adopted in 2013 (Balla, 2013; CADRI and République du Niger, 2014) defines the roles and responsibilities of institutions involved in DRR. It is linked to the Niger Economic and Social Development Programme 2012–2015 (République du Niger, 2012a) and Niger 2035 Vision (République du Niger, 2017c). At the regional level, four of Niger's eight regions have a DRR strategy (MAH/GC, 2018). The 3N initiative 'Nigériens Nourish Nigériens' was adopted by Decree 2012-139/PRN in 2012 (République du Niger, 2012b) to address successive food crises and includes elements of DRM in strategic axis 3 and 4; a National Framework for Climate Services (CC/SAP/PC interview, 2021) was implemented in 2013 and has been operational since 2015.

Since 2015, several new and updated acts, strategies and policies have been initiated to improve Niger's disaster risk governance, inter-institutional collaboration on DRR and post-disaster recovery. This includes Act no. 2017-006 on 31 March 2017 (République du Niger, 2017a) outlining the principles of civil protection and decrees governing implementation activities, including defining the responsibilities of national to local authorities for disaster preparedness, risk reduction and management. The NDRRS was revised in 2016 (CC/SAP/PC interview, 2021), 2017 (Republic of Niger, 2017b) and 2020 (CC/SAP/PC interview, 2021), the latter being to better align the strategy to the Sendai Framework for Disaster Risk Reduction 2015–2030. Political adoption of the revisions is being sought, and a funding plan for its implementation is being developed.

The 2013 National Strategy for Sustainable Recovery was revised in 2019 (MAH/GC, 2019) to consider climate change and the Sendai Framework. The MAH/GC oversaw the validation of the strategy, which serves as a formal framework for the implementation of post-crisis recovery processes for all relevant development partners and aims to strengthen the capacity of national and local authorities to prepare for and manage post-disaster recovery processes. The 2019 Strategy has an expanded scope and considers all hazards, while establishing the remits of the country's various actors in crisis and disaster management. It should be shortly adopted by government authorities. Finally, the 2020 Humanitarian Policy and Disaster Management Document (*Document de politique humanitaire et de gestion des catastrophes*) (MAH/GC, 2020a) provides a national framework for disaster management and humanitarian affairs and aims to enhance coordination of implementing entities.

There are several other disaster risk governance entities that provide both sector-specific and cross-sector coordination functions. For example, the Directorate of Civil Protection was created by Decree 84-134 in August 1984, modernised in 2016 by Decree no. 206/344/PRN and Decree No. 2016 0699/MI/SP/D/ACR, and Decree no. 251/PRN in 2001 which saw the establishment of the DGPC (DGPC, n.d.). Housed within the Ministry of the Interior, Public Security, Decentralization and Customary and Religious Affairs, the DGPC remit includes protection of people, property and the environment against disaster risks, coordination of emergency relief, an operational role in humanitarian assistance, evaluation of the impact of humanitarian crises, management of assistance stocks, and operational management of responses to 'floods, fires, humanitarian issues of armed conflict, inter-community violence, industrial and technological disasters' (DGPC, n.d.). The DGPC is also a member of numerous national technical committees, including for floods and displacement, and the International Civil Defence Organization, and holds the Vice-Presidency of the National Platform for Disaster Risk Reduction and Prevention (*La Plate-Forme Nationale pour la Prévention et la Réduction des Risques de Catastrophes*, PFN/PRRC) (DGPC, n.d.).

The Operational Centre for Crisis Alert and Management (COVACC) is responsible for implementing the necessary structures and mechanisms to signal early warnings, strengthen anticipatory capacity, mobilise appropriate responses, oversee crisis management, evaluate crisis situations and share information in times of crisis (DGPC, n.d.).

COVACC also has a decentralised presence, with Regional Operations Coordination Centres (*Centres de Coordination des Opérations des régions*) and Departmental Operations Centres (*Centres Opérationnels départementaux*, COD) that are responsible for regional and local coordination of emergency and disaster management respectively and ensuring flow of information from local to regional to national authorities (DGPC, n.d.). In addition, the Departmental Disaster Assessment

Units (*Cellules Départementales d'Évaluation des Catastrophes*) are responsible for needs assessments during crisis situations, for conducting post-disaster impact assessments relating to loss of life, livelihoods and environmental impact, and for sharing information with local authorities and COD (DGPC, n.d.).

Hazard-specific entities are also in place, such as the National Locust Control Centre (CNLA), created by law 2007-28, to prevent, alert and coordinate action in the event of an upsurge or invasion (MAG/EL, n.d.), and a Crisis Cell for flood management, run by the MAH/GC and the United Nations Office for the Coordination of Humanitarian Affairs (UN OCHA), whose operating costs are charged to the national budget (République du Niger, 2017d).

There are several national and sub-national platforms related to DRR/DRM. The key institutions responsible for DRR collaborate in the context of the national cross-sectoral platform, PFN/PRRC, which was launched in 2012 by Decree no. 030/PM (République du Niger, 2012c; Lo, 2014). With the Early Warning System Coordination Unit (EWSCU) as the Permanent Secretariat, the PFN/PRRC coordinates all entities supporting disaster prevention and risk reduction (CADRI and République du Niger, 2014). Among others, it brings together the MAH/GC, the DGPC, the national Meteorological and Water Resources Directorates, the Ministries of Finance and of Planning, and the EWSCU.

The PFN/PRRC also provides space in which entities responsible for disaster and for climate can coordinate. For example, the DNM oversees action on climate change and is part of the PFN/PRRC, and both are part of the Nexus Humanitarian-Development-Peace Committee (see below) (DNM interview, 2021).

Other platforms of note include those specifically designed to tackle food security. Under the 3N Initiative, 8 regional and 24 departmental platforms on risk reduction have been created (MAH/GC, 2018). Furthermore, in 2018 the Nexus Humanitarian-Development-Peace Committee was established, with the aim of coordinating and harmonising post-crisis recovery actions (MAH/GC, 2020a). At the community level, Niger's Farmers Platform, created in 1998, provides a space for all agricultural, livestock and fishing livelihoods to be represented through a decentralised coordination mechanism. As of 2019, more than 500,000 family farm managers in eight regions of Niger had engaged in the Platform (Anta Syll and Pouye, 2019). Through the Platform, hydrometeorological and health information is shared (collected by OSV and SCAP-RU), and a WhatsApp-hosted forum has been set up in collaboration with community radio stations with an audience of approximately 300,000 people (DNM interview, 2021).

At the time of the baseline, a capacity assessment report noted several weaknesses in the information sharing and alert mechanisms (CADRI and République du Niger, 2014). Since then, national alert codes have been defined by Decree no. 2018-538/PRN/MISP/D/ARC, which includes articles on measures to inform the public (article 3), as well as on enlisting broadcast channels for information dissemination (article 7) (République du Niger, 2018a).

In translating policies and strategies into actionable tools for decision-makers, Niger's implementation of the Sendai Framework is guided by an action plan (CC/SAP/PC interview, 2021) accompanying the NDRRS, while other mediums such as the daily Civil Protection Bulletins (République du Niger, 2020a, for example) help decision-makers to be aware of current and future risks, and are circulated through the national to local coordination centres, which also circulate alerts (described above).

In terms of protecting critical ecosystems, under the Presidency of the General Directorate of Environment, Water and Forests, Niger established a Technical Commission on Biological Diversity (Centre d’Echange d’Informations sur la Biodiversité du Niger, n.d.). This is one of seven commissions created within the Executive Secretariat of the National Environment Council for Sustainable Development (CNEDD) to deliver on the implementation of Niger’s commitments to the UN Convention on Biological Diversity (Centre d’Echange d’Informations sur la Biodiversité du Niger, n.d.). The CNEDD is under the remit of the Prime Minister’s Office and works to coordinate the implementation, monitoring and evaluation of the National Environment Plan for Sustainable Development (Centre d’Echange d’Informations sur la Biodiversité du Niger, n.d.).

Observations and recommendations

Challenges and limitations

Despite progress in establishing the necessary policies, governance arrangements and mechanisms to manage and prevent disaster risk, there are still several areas where further work is required. For example, most of the key DRR stakeholders interviewed highlighted the need to have the NDRRS formally approved by government following the 2020 revisions, along with complementary texts awaiting validation such as the National Strategy for Sustainable Recovery (MAH/GC, 2019).

Despite the impressive range of hazard-specific and cross-institutional coordination mechanisms in place, capacities remain limited. The CADRI capacity-building plan that was developed in 2014 and published in 2015 (CC/SAP/PC interview, 2021) has not been fully implemented.

The adoption of legislation on DRR, along with the creation and bolstering of a wide range of institutions, reflect a political will to implement national DRR policies. Nonetheless, there remains a lack of general inter-institutional coordination. Organisational siloes persist, despite the establishment of the COVACC. Concerns have been raised about the capacity of the EWSCU to manage the PFN/PRRC with members keen to use this space more readily for policy advocacy, campaigning, fundraising and technical capacity-building.

Institutional links need to be created and/or strengthened. This includes, for example, strengthening the relationship between those responsible for DRR – namely the MAH/GC and the DGPC – and those responsible for the protection and management of critical ecosystems, namely the Technical Commission on Biological Diversity and the CNEDD.

In terms of protecting critical ecosystems, while a vast number of policies, plans and interventions have been reported by interviewees, it is difficult to assess whether this amounts to sufficient protection and management of critical ecosystems. Those engaged in DRM have a limited understanding of progress in biodiversity and ecosystem conservation. Strengthening the technical links between the disaster and ecosystem management entities may therefore help to raise awareness of the work being done by the Technical Commission on Biological Diversity and the CNEDD, particularly where actions also contribute towards DRR outcomes. The links between those responsible for DRR and for climate change could also be strengthened through a formal arrangement, rather than relying on the willingness of individual staff members.

More broadly, many interviewees reported that there is insufficient technical capacity, core financing from national budgets and flexible financing to fully implement policies and strategies and to ensure effective functioning of the various platforms and mechanisms (described above). Such limitations translate into insufficient human and financial resources to support sectoral integration

of DRR outcomes. Practically, at the sub-national level, decentralised platforms and DRR strategies are limited by lack of modern facilities, operational and logistical resources and basic equipment (hardware and software). According to interviewees, decentralisation has not been supported by increased resources; municipalities, especially in rural areas, are struggling to fully execute their mandate, a situation that has direct implications on the effectiveness of the SCAP-RU (the relevant structure to address development issues and the implementation of national DRR policies at the community level). Furthermore, the local management of the SCAP-RU is fraught with difficulties because their costs are not included in municipal budgets.

Recommendations

(P2 N-1) Formulate gender-responsive DRR policies and plans.

(P2 N-1) To urge the government to formally validate the revisions to the NDRRS, the PFN/PRRC may want to consider drafting an internal advocacy plan, utilising their contacts from across government. They could call for the validation to be expedited and formal approval granted no later than December 2021. The goal of having national to local DRR strategies in line with the Sendai Framework in place by 2020 (as detailed under Target E of the Framework) should be used as a core argument for approval. DRR stakeholders from across the country and region should support these calls, emphasising to ministerial-level representatives that every effort should be made to ensure Niger meets its contribution to the global goals. An incentive is that validation of the revised NDRRS is an opportunity for the country to be a leader within the region –some Sahelian countries do not have DRR strategies, while others have not aligned their DRR strategies to the Sendai Framework.

(P2 N-2) Reportedly, the CADRI capacity-building plan that was published in 2015 has not been fully implemented (CC/SAP/PC interview, 2021). To better understand the barriers, incentives and opportunities for building DRR capacity, CADRI would be well placed to commission an independent appraisal of why the plan was not implemented and what can be learnt to inform both the development of the NDRRS action plan (which requires funding), and a new iteration of the CADRI capacity-building plan that serves to address any remaining capacity gaps. Given that Niger is advanced in many areas of DRR relative to other countries in the region, the lessons from the independent appraisal could help to inform the development of similar plans in neighbouring countries.

(P2 N-3) Create/reinforce multi-stakeholder DRR platforms.

(P2 N-3) In response to calls for a strengthened coordination of the PFN/PRRC, UNDRR and other African governments could provide examples of best practice in managing, steering and monitoring platforms to the Permanent Secretariat and the EWSCU. There may be management tools and skills that could be adopted to help respond to members' calls to promote the PFN/PRRC as a space for informing policy, fundraising, devising campaigns on key disaster risks, and building members' technical capacity. Strengthening of the PFN/PRRC could also be incorporated into the revised CADRI capacity-building plan (see P2 N-2) to provide another avenue for support and potential funding for capacity strengthening.

(P2 N-3) With strengthened coordination and participation, the PFN/PRRC may be able to begin more actively engaging with sectoral policy and strategy reform processes, to integrate DRR into new and revised sectoral legislation as opportunities arise. Doing so will require a strongly coordinated Platform, with active management to ensure sustained technical advocacy. African

governments and DRR stakeholders from across the region could provide examples of making the technical case to sectoral specialists to integrate DRR, based on their previous experience.

(P2 N-3) The PFN/PRRC may wish to consider forming a sub-group to establish relationships with the key institutions responsible for protecting, restoring and managing Niger's ecosystems, including the Technical Commission on Biological Diversity and the CNEDD. A basic aim could be to establish cross-institutional collaboration to improve the exchange of information and increase awareness of ambitions to protect vulnerable ecosystems. For example, Niger's wetlands and flood plains are under the remit of the Sendai Framework and the Convention on Biological Diversity. If positive relations can be established, a permanent representative on biological diversity could eventually be nominated as part of the PFN/PRRC, and efforts to report on the ecosystem protection, restoration and management as part of the Sendai Framework Monitor could be combined.

(P2 N-6) Align climate and DRR coordination mechanisms.

(P2 N-6) Although the government entities mandated to work on climate change and on DRR (the DNM and DGPC respectively, for example) currently collaborate through the PFN/PRRC, many stakeholders reported that a legal text linking the two entities and their shared goals would help to formalise this relationship and ensure that there is a documented commitment to continued coordination. This is particularly relevant as actions on climate change adaptation and DRR are increasingly understood to be aligned at the country level, and coherence between actions are considered a necessity (OECD, 2020). A formalised collaboration may also pave the way for discussions on utilising climate finance and climate services to the benefit of DRR outcomes. Furthermore, collaboration and coherence across the two entities will be critical in the run up to the successors to the Sustainable Development Goals, Sendai Framework and Paris Agreement on climate change, to ensure Niger can present a sound and coordinated set of inputs and recommendations on how to tackle climate and disaster risks across the respective government entities.

(P2 N-7) Facilitate the implementation of the Sendai Framework through practical tools.

(P2 N-7) To deliver on its broad DRR mandate, the DGPC should be encouraged to expand the information included within its daily bulletins and alerts, to include a greater focus on risk creation, risk mitigation and pre-planning for disaster recovery – with the aim of moving towards a more risk-informed decision-making ethos. Noting the value of taking a risk-informed approach to development (see Opitz-Stapleton et al., 2019), further work is required to embed these ideas within the daily operational approaches of civil protection entities. There is an immediate need to conduct further research to better understand what aspects of risk-informed development appeal most to the DGPC, and what narratives and advocacy are most impactful, and, based on this, to devise a plan of engagement to help upskill and enable the DGPC and sectoral ministries/institutions who have a remit on disaster recovery to define their own Nigerien interpretation of the concept. In time, it is hoped that these ideas will encourage a holistic approach to multi-hazard risk-informed decision-making; shifting away from risk management and towards a broader interpretation of risk reduction.

Priority 3: Investing in DRR for resilience

Progress and achievements

State funds support the operating costs of public institutions in charge of DRR and DRM, which receive 6% of the national investment budget (MAH/GC, 2018). Several emergency funds also exist,

including most recently the DGPC-established fund for disaster management created by Law no. 2019-76 of 31 December 2019 (République du Niger, 2019b) and subsequent decree in May 2020 (Decree No. 2020/392/PRN/MISP/D/ACR/MF, see République du Niger, 2020b). At the regional level, civil protection expenditures are listed by Ordinance No. 2010-54 (République du Niger, 2010), article 244, section 6 of 17 September 2010 as a mandatory public expenditure.

There are also sector-specific funding instruments in place to support emergency assistance. For example, Ordinance No. 2010-049 of 19 August 2010 (Miko, 2019) made provision for the establishment of a contingency fund to mitigate agricultural, forest and pastoral risks and support farmers affected by disasters, although this fund is not yet operational.

Most DRR initiatives in Niger are implemented with external support, including from UN agencies (UNDP, UNICEF, the Food and Agriculture Organization (FAO), World Food Programme (WFP), etc.) and other technical and financial partners. The European Union (EU) is the biggest contributor and lead donor (UNDP, 2019). Consultation mechanisms are in place for the Government of Niger and external donors to discuss funding priorities, such as the CMC, CRC and ECC (ARC and the Republic of Niger, 2019; UNDP, 2019). The value of external funding channelled to Niger is considerable – for example, between 2017 and 2020, the EU allocated €1 billion to Niger in development assistance (EC, 2017).

Niger benefits from several World Bank funding mechanisms, including from the International Development Association (IDA). The Immediate Response Mechanism (IRM) is a reliable tool to assess and mobilise available resources, including 5% of the country's IDA portfolio; this meets the country's immediate funding needs and supports early recovery efforts, as it takes advantage of the flexibility provided by the World Bank's emergency procedures. The IRM was used in 2016, for example, to respond to the heavy flooding from the El Niño weather patterns, which displaced 92,000 people (UNDP, 2019).

Niger is engaged in a number of risk transfer and insurance mechanisms. For example, together with the African Risk Capacity (ARC), a mutual insurance mechanism, the Government of Niger has put in place a reliable tool to assess losses and release compensation. At the time of writing, compensation is only provided for drought-related losses, and the maximum pay out for 2019–2020 was set at US\$17 million (ARC and Republic of Niger, 2019). Other initiatives include the trial of the insurance index for drought risks during the rainy season of 2019 in four departments of the Tahoua region (Sabonguida, Darey, Bagaroua, Illela) (Miko: 2019).

There are plans to extend and expand the risk transfer options available. The ARC mechanism has benefited farmers affected by droughts, and discussions are currently underway to extend the insurance to flood disasters (Miko, 2019). Furthermore, in 2019, UNDP proposed supporting the Government of Niger in developing and promoting index-based insurance and linking it to the National Adaptation Strategy (Anta Syll and Pouye, 2019).

Social assistance in Niger comes from several sources: the national government, international NGOs, local NGOs and others. The Government of Niger accounts for 80% of all distributed assistance, while international NGOs account for 8% (Annan and Sanoh, 2018). The Sahel Adaptive Social Protection Program (SASPP) – a multi-donor trust fund and World Bank project – is active in Niger as the Niger Adaptive Safety Nets Project. In 2018, this project received US\$101 million, which allowed for monthly cash transfers for almost 100,000 individuals, daily public works payments benefiting

50,000 households, one-time inclusion payments for 10,000 beneficiaries and monthly shock-responsive emergency cash payments for almost 5,000 recipients (World Bank, 2019). Other activities undertaken by the Safety Nets Project include support to the DNP-GCA, the establishment of a National Social Registry of Beneficiaries and cash-for-work microprojects for vulnerable communities. The World Bank also conducted a public expenditure review on social protection, an evaluation to inform the next stage of the project, two studies on cash transfers and their impact on markets, an impact evaluation on the cash-for-work component and workshops on adaptive social protection (World Bank, 2019). WFP and UNICEF are also working with the DNP-GCA to strengthen the existing social protection system and scale up adaptive social protection for COVID-19 (WFP, 2020).

At the municipal level, Decree 2016-075 (République du Niger, 2016) saw the transfer of state power and resources to municipalities in the areas of health, education, water and the environment. This was anticipated to bring decision-making closer to at-risk and/or affected communities, and thus increase incentives for DRR investments.

At the local level, some communities have established resilience funds (Red Cross interview, 2021). The volume of funding varies, depending on the solidarity and the amount members are willing to donate (Red Cross interview, 2021). These funds particularly benefit women's associations, as they support empowerment and enable women-focused groups and organisations to obtain recognition for their social and economic role within the community (Red Cross interview, 2021).

Observations and recommendations

Challenges and limitations

In the absence of a national funding strategy for DRR, Niger invests in DRM by drawing on emergency funds, redirecting budget lines, mobilising aid from donors or mobilising one-off financial support from private sector entities. DRR is only moderately planned for in sectoral budgets, and there are no monitoring mechanisms to ensure budgets provide for DRR. Aside from the state budgetary allocations to DRR and DRM, there is anecdotal evidence to suggest that funds are also allocated through sectoral and ministerial budgets, as well as regional and departmental development frameworks, and land planning schemes that are annually included in the state budget. However, there is a lack of quantifiable or verifiable evidence on the volume or purpose of such funding.

Other financing mechanisms are robust, such as development assistance from the EU – the biggest contributor according to UNDP (2019) – and other countries as well as funding via the World Bank, but these funding streams may not be sustainable at the current levels. With countries around the world diverting assistance to the COVID-19 pandemic and/or reducing their contributions to overseas development assistance (ODA) (Cornish and Chadwick, 2021), it is possible that funding targets for Niger's DRR and DRM programmes may not be met in the future. Other funding mechanisms, such as ARC insurance, remain limited to a single hazard (drought) and only function at the state level.

At the municipal level, efforts to decentralise aspects of development planning were anticipated to increase the inclusion of DRR into decision-making processes; however, there is little evidence available on the impact of the decentralisation processes since the 2016 decree (Decree 2016-075, République du Niger, 2016). Moreover, many interviewees reported that municipal development

plans lack integration of DRR due to lack of knowledge and leadership by local authorities on risk reduction. Lack of inclusion in the plans has a knock-on impact, with few/no resources being dedicated to DRR-related activities. The evaluation by IRAM (2019) found that OSVs and SCAP-RUs generally did not perform well without external support from NGOs or WFP.

Recommendations

(P3 N-1) Design/operationalise national DRR investment plans.

(P3 N-1) The DGPC, in collaboration with the UN, would benefit from commissioning an assessment of the funds dedicated to DRR-related activities through annual national planning processes, including within line ministries other than those directly responsible for DRR. The assessment should encompass regional and departmental development frameworks and land planning schemes, and (if funding permits) non-governmental investments. Existing tools and methods to calculate budget and expenditure for DRR can be used, such as DRR and climate change adaptation Public Expenditure and Institutional Reviews (PEIR) (UNDRR, 2021). Indeed, the Sahel Resilience Project is planning on initiating such a review in September 2021 (UNDP email exchange, 2021), with training manuals developed to facilitate further iterations by national stakeholders. The findings can be used to improve decision-making around DRR investments and, where required, support advocacy by the PFN/PRRC for increased investment in disaster prevention, reduction, preparedness, response and recovery across all relevant sectors. If deemed useful, the process should be repeated on an annual basis, and the findings should be used to inform Niger's contribution to national reporting through the Sendai Framework monitoring and reporting process.

(P3 N-2) Develop/strengthen national disaster risk financing mechanisms.

(P3 N-2) There are many examples from across the continent (including those identified through this research) of well-intentioned DRR strategies and plans not being implemented due to a lack of secure funding, and even examples of DRR investment plans being unsuccessful in fundraising. It would be beneficial to commission an independent review of a sub-set of previous and current DRR investment plans to evaluate their relative success. Themes for the assessment could include: quality of the process to identify investment options (i.e., were there sufficient inputs from experts on risk financing?); viability of investment options identified (i.e., were the proposed donors and volumes of investment sought realistic in relation to the economic outlook?); effort invested in seeking funds (i.e., was sufficient time and effort dedicated to pursuing the investment opportunities identified?); and the quality of the monitoring process employed to assess any changes required to the plan (i.e., were processes in place to enable the plan to be adjusted iteratively on the basis of changing circumstances and the success or lack thereof), in securing funding. The findings from such an assessment would help inform the development of the proposed funding plan for the implementation of the NDRRS (see Priority 2).

(P3 N-2) Niger should be prioritised for training and capacity-building on disaster risk finance, risk-sharing, risk transfer and cost-benefit, and return on investment methodologies. This could be part of a broader regional technical upskilling programme, where representatives from other countries across the region are also involved, and where use is made of existing meetings such as the Africa Regional Platform and Ministerial Conference on Disaster Risk Reduction and the Global Platform on Disaster Risk Reduction 2022. Follow-up online support and mentorship could also be provided, to help Nigerien experts apply the tools and skills that they learn to their day-to-day jobs. Ideally, this

would be supported by a helpdesk function, wherein an external donor pre-finances technical support to allow Nigerien experts to receive tailored support when applying tools and methods learnt in the training.

(P3 N-3) Operationalise guidelines for mainstreaming DRR across sectors.

(P3 N-3) There is a need to strengthen awareness among DRR stakeholders on the availability and use of tools and guidelines to integrate DRR into sectoral budgets, policies and planning processes – and to disaggregate between those of use for national and sub-national decision-making processes. First, a quick review could be undertaken to collate the available tools being used by line ministries within Niger. The PFN/PRRC, in combination with the DGPC, could create a repository of sector-specific guidelines and tools for integrating DRR into sectoral budgets, policies and planning processes. Next, the PFN/PRRC could convene a consultation to identify any additional useful tools and guidance notes. A rapid gap analysis could be conducted to identify the most viable sectors for the integration of DRR where guidelines have not been provided. Technical materials could be identified to help to address these gaps. This activity would benefit from support from UNDP and UNDRR, which have access to DRR integration materials from other countries. At this point, it may be necessary for a longer-term process to determine how support will be provided to a sub-set of sectors – such as agriculture, education, infrastructure, health, and water and sanitation – to adopt DRR mainstreaming principles. If effective, and if recommendation P3 N-1 is implemented, it should be possible to track increased investment in DRR over time through line ministry budgets.

(P3 N-5) Develop DRM guidelines on safety of schools, health facilities and critical infrastructure.

(P3 N-5) There is a need to conduct a rapid assessment of the availability and use of risk management guidelines on the safety of schools, health facilities and critical infrastructure. Using the entry point of health, funding could be sought from COVID-19 response funds and embedded into COVID-19 recovery plans. The DGPC, in collaboration with the Ministry of Health, should review the findings to consider whether adjustments to the Health Emergency Preparedness and Response Plan (Red Cross interview, 2021) are needed to strengthen the safety of critical health infrastructure and preparedness and response systems. If interventions are required to bring health facilities up to a minimum standard, the Ministry of Health and DGPC should consider pooling funding from their annual national budget allocation, which can then act as leverage to obtain external funding for the required activities. If successful, similar processes can be used for school facilities and critical infrastructure.

(P3 N-7) Strengthen DRR knowledge management and practice.

(P3 N-7) To encourage and advance the technical expertise of key civil servants within the DGPC and line ministries related to DRR, willing donors should aim to co-sponsor their participation in technical expert working groups convened as part of the upcoming African Regional Platform and Ministerial Conference on Disaster Risk Reduction. Selected candidates should include representatives from municipal authorities, particularly in the locales where future work on DRR is expected.

(Sub-national)

(Sub-national) At the sub-national level, little empirical data exists to help quantify the extent to which DRR-related goals and activities are included and financed from municipal development plans. Using a sub-set of high-risk contexts where drought and flooding are recurring hazards, mixed

methods research is required to quantify the municipal, state and external funding flows to disaster-related activities. The findings could be compared with qualitative data collection that seeks to describe processes of preparedness, risk reduction, response and self-recovery within households and communities, specifically for household incomes and financial security. The findings from both components can then be amalgamated to better understand the financial impact and investment deficit at the municipal level for local authorities and at-risk households. The findings could be used to inform engagement with selected local authorities to encourage enhanced risk-informed decision-making and fund allocation.

Priority 4: Enhancing disaster preparedness for effective response and to ‘build back better’ in recovery, rehabilitation and reconstruction

Progress and achievements

At the time of the 2015 baseline, the Hyogo Framework monitoring processes revealed that Niger’s EWS were highly developed, with information transferred from community to national level, and back, for most hazards affecting the country. These mechanisms were effective and involved critical communications partners, including the media (CADRI and République du Niger, 2014). No national multi-risk EWS was in place, although this had been recommended (CADRI and République du Niger, 2014). A review by UNDP (2019: 32) found that Niger had ‘no practical experience in planning or managing recovery’.

Institutions involved in disaster preparedness and response in Niger include the ministries, DGPC, DNP/GCA, CNLA, UN agencies, NGOs and the Niger Red Cross, as well as operational structures such as the fire brigade and military fire brigade (CADRI and République du Niger, 2015). The NDRRS (République du Niger, 2017b) mentions the existence of several risk management preparedness and response plans, including a National Multi-Risk Contingency Plan (République du Niger, 2013), the PSPV (DNP/GCA, 2021) and the UN OCHA Humanitarian Response Plan (UN OCHA, 2020). The 2020 humanitarian policy and disaster management document defines the roles and responsibilities of different actors in the event of a disaster, including: the Ministry of the Interior, Public Safety and Decentralisation and its Customary and Religious Affairs Office; the Ministry of Agriculture and Livestock; the Ministry of Transport; MAH/GC; the Ministry of Employment, Labour and Social Protection; the Ministry of Population; the Ministry of Women’s Promotion and the Protection of Children; the Ministry of Urbanisation, Housing and Land Registry; the Ministry of Public Health; the Ministry of the Environment, Urban Health and Sustainable Development; the 3N Initiative; PFN/PRRC; DNP/GCA; and local and regional authorities, as well as non-state actors such as the private sector (both for-profit and non-profit) (MAH/GC, 2020a).

Other plans are sector- or hazard-specific. In 2020, MAH/GC released a flood contingency plan in the context of COVID-19 (MAH/GC, 2020b), which includes innovative measures such as weather monitoring, dissemination of meteorological information through the media, and raising awareness by canvassing in at-risk areas. In the context of the COVID-19 pandemic, the Ministry of Public Health issued a COVID-19 Pandemic Preparedness and Response Plan (Ministère de la Santé Publique, 2020), as did the WHO Country Office Niger (OMS Niger, 2020).

At the national level, the PSPV ‘details interventions for populations affected by food and nutritional crises, as well as by national disasters’, although a review of this framework is needed if it is to fulfil its recovery capacity (UNDP, 2019: 48). The MAH/GC has also produced the National Strategy for

Sustainable Recovery, which serves as a guiding tool for implementing post-crisis recovery programmes following droughts, floods, epidemics, pest pressure, insecurity from armed conflicts and inter-community conflicts (MAH/GC, 2019).

According to the information provided by different ministries and sectoral authorities, COVACC implements the alert system. COVACC is responsible for gathering information from sectoral observatories (République du Niger, 2017e). For example, flooding and extreme weather forecasts support EWS provided by meteorological and hydrological agencies. The Meteorological and Water Resources Directorates are part of the Ministry of Transport and Hydraulics. To improve the quality of forecasts, the Meteorological and Water Resources Directorates, which are responsible for the processing and dissemination of climatic and hydrometeorological information, have worked with the CREWS initiative to build their capacity (DNM interview, 2021).

Within the DNGPCA, the technical capacities of the EWSCU have been strengthened. The Coordination Unit provides bi-annual assessments of the population's vulnerability to disaster risks such as droughts, floods, epidemics, epizootics and bushfires. This is designed around questionnaires on rainfall, food production, cash-crop agriculture, pastoral farming and non-agricultural sources of income, market conditions, the state of health and nutrition, warning signs of risks, coping capacities and priority actions (CC/SAP/PC interview, 2021).

At the sub-national level, the Regional Operations Coordination Centres are responsible for coordination of the operational management of emergencies and disasters and the systematic feedback of information to COVACC. They also coordinate the CODs, which are responsible for crisis operations at the departmental level and manage the Departmental Disaster Assessment Units. The mission of the Units is to assess the loss of human life and the damage to property and the environment during disasters (République du Niger, 2017e).

At the local level (municipalities and villages), preparedness is largely the remit of the OSV and the SCAP-RU, which monitor risks and implement EWS that depend on pre-established alert thresholds (CC/SAP/PC interview, 2021). The thresholds are set by the DNGPGCA's EWS, in collaboration with the departments responsible for meteorological observation, agriculture and water resources. For example, the Ministry of Agriculture uses annual weather forecasts to decide that a pre-determined number of days without rain equates to a drought. The SCAP-RU collects and transmits data to the OSVs based on 'indicators across 5 vulnerability sectors: climate, food and feed, health and nutrition, social relations, environment and resources' (Giordano and Ellina, 2018: 22). This data is then transmitted to the relevant authorities at the regional and national levels (Banque Mondiale, 2013).

There are 200 OSV and over 1,000 SCAP-RU across the country (CC/SAP/PC interview, 2021). Niger plans to provide its 266 municipalities with an OSV at the municipal level and SCAP-RU at the community level. At the community level, there are reportedly 1,000 EWS that are currently fully or partially operational (CC/SAP/PC interview, 2021). Paper-based questionnaires are being replaced by mobile phones and computer tablets to optimise data collection methods, although the roll-out of this technology has not been spread evenly across communes (Giordano and Ellina, 2018). The development of an open data kit mobile application for data collection, analysis and storage is underway and has been supported by external partners (Giordano and Ellina, 2018). Digitalisation is slow due to insufficient funding to acquire new computer tablets and lack of training of the volunteers in charge of data collection; however, when successful, this has improved the speed and

cost-effectiveness of transmitting climate data to the OSVs and sub-regional committees (Giordano and Ellina, 2018).

Response at the sub-national level is determined by the emergency response plans (*plans d'organisation des secours* (plans ORSEC)). Decree No. 2017-876 of 10 November 2017 established the ORSEC plans to organise the mobilisation, implementation and coordination of actions for all public and private actors at the regional and departmental levels (République du Niger, 2017f). According to this Decree, departmental emergency response plans should include: the organisation of monitoring, mobilisation, coordination and leadership; monitoring of vigilance systems aimed at predicting, preventing or reporting certain risks; procedures and means for alerting local authorities and public and private stakeholders; procedures and means for alerting and informing the public of an emergency situation; action plans for relief and protection of affected people, including an emergency supply of drinking water and energy and emergency management for transport and telecommunications networks; the organisation taking over from the emergency services after their intervention; and the conditions for implementing international operational cooperation agreements. Regional emergency response plans should include the modalities of organisation, mobilisation and operation of the chain of monitoring and coordination of operations, in particular the liaison structures with the Regional Director of Civil Protection; a summary of vigilance and surveillance systems; the organisation of reinforcements for the benefit of one or more departments of the region or another region; the inventory of resources whose scarcity or specificity does not make it relevant to carry out a departmental census; and the definition of the implementation of international cross-border operational cooperation agreements (République du Niger, 2017f).

Red Cross volunteers are trained at the village and community levels to support the emergency response plans (Red Cross interview, 2021).

Observations and recommendations

Challenges and limitations

Despite the creation of emergency response structures (DGPC, DNP/GCA, PFN/PRRC), humanitarian response to disasters is undertaken on an ad hoc basis, and is insufficiently endorsed by national, district and municipal authorities. Not all municipalities have operational contingency plans. Insufficient funds, logistical means and human resources are further impediments to DRR. Considerable support will be needed to strengthen and enact the NDRRS.

Despite the intended central coordination function of COVACC, many challenges in systematising and harmonising EWS remain. These include, for example, information sharing by sector not being sufficiently timely to enable COVACC to disseminate and monitor alerts in real time (DGPC interview, 2021), as well as sectoral structures failing to cooperate with one another and continuing to work individually at the alert level (DNM interview, 2021). Ultimately this means that data and alerts are not systematically centralised or disseminated in a timely manner.

The structures in charge of emergency preparedness and response lack the means to carry out their mission in good conditions; specifically, coordination by the DGPC is not visible enough and limited to emergency relief (CADRI and République du Niger, 2015). More work needs to be done to turn plans and procedures into practice when disasters occur. Although response plans have been approved, they are rarely enacted in emergency situations.

At the local level, there is a lack of local emergency planning and preparedness tools (CADRI and République du Niger, 2015). Other challenges include the limited capacities and lack of technical resources within OSV and SCAP-RU. There are also issues related to the retention of volunteers who collect data for the local EWS and SCAP-RU. Because volunteers usually only commit to short-term contracts, high turnover and the need to train new volunteers each year are ongoing challenges (CC/SAP/PC interview, 2021). The Niger Red Cross is implementing a Community Support Scheme (Red Cross interview, 2021) that should be considered by authorities as an opportunity to extend outreach, in the same way that the presence of technical partners is advantageous for the country's development.

Recommendations

(P4 N-1) Strengthen multi-hazard EWS.

(P4 N-1) Supporting COVACC to function effectively requires an understanding of the barriers and/or disincentives within line ministries to sharing early warning information in a timely manner and to working independently to issue alerts. To address this, a rapid monitoring process could be undertaken under existing projects such as CREWs to understand the blockages to institutional collaboration, with a focus on potential incentives to change current behaviour and ways of working. This could be complemented by one-off technical sessions convened by the UN, with examples of well-functioning multi-sector EWS and alert systems from across the continent, ideally with personal stories from high-level technical experts to help inspire sectoral specialists to rethink the way they currently collate, share and issue alerts.

(P4 N-1) To address the challenge of volunteer retention within the SCAP-RU, a quick online survey could be administered to better understand the incentives and disincentives for volunteerism. Based on the findings, low-cost initiatives should be trialled that may help retention – including, for example, personal use (within limits) of the computer tablets and certifications for longevity of service. Insights on volunteer retention from the Niger Red Cross may also be useful to source through an informal interview, with any measures proven to be successful considered for adoption within the SCAP-RU.

(P4 N-3) Create/strengthen national preparedness and response institutions.

(P4 N-3) Significant capacity enhancement is required for the key disaster management institutions, including the DGPC. Recommendations detailed in P2 N-2 outline options for redress; however, to achieve the sea change required, significant external support will be needed – in personnel, technical capacity and financial support. As a contribution to a longer-term goal of enhancing the capabilities of Niger's national risk management institutions, the Economic Community of West African States (ECOWAS) and the AUC could create relationships with well-established fellowship schemes, such as the ODI Fellowship Scheme (ODI, 2021), and work with the Government of Niger to request experts for two-year postings with expertise on disaster management, civil protection and related crisis management capabilities. As an innovation to the fellowship scheme, consideration should also be given to posting candidates at the district level to provide additional personnel capacity and to develop and encourage more preventative action, strengthening liaison between sub-national and national risk management entities.

(P4 N-4) Develop comprehensive preparedness and response plans.

(P4 N-4) Despite the existence of recovery frameworks and strategies, it is widely understood that recovery processes are not undertaken in full. A review of the PSPV has been recommended previously (UNDP, 2019) to better understand the viability of the framework, the barriers to effective implementation, and opportunities and incentives for enhancement – this should be undertaken. The level of implementation of the National Sustainable Recovery Strategy should also be considered, alongside the similarities and differences between the level of operationalisation of both strategies, with lessons for scaling up financing and implementation shared across the two. Where new funding streams emerge, such as those deriving from COVID-19 recovery investments, these could be pursued with a view to supporting immediate post-pandemic recovery needs and the longer-term capacities of Niger’s disaster management institutions to undertake multi-hazard recovery processes.

(P4 N-5) Support response training and simulation exercises.

(P4 N-5) The Government of Niger, the DGPC and COVACC could consider devising a set of exercises to engage and enthuse representatives from the key sectoral departments/ministries to simulate the operation of a fully functioning monitoring, alert and response system. Engagement could be incentivised by enlisting the support of an experienced set of facilitators, such as the Red Cross Red Crescent Climate Centre (which specialises in using simulations, games and interactive methodologies to convey climate and disaster-related processes) and making the selection of sectoral representatives something that is deemed to be an honour (perhaps through formal invitation). The process should be documented and made into a video to be shared with departmental and ministerial staff, to demonstrate that full and proactive engagement in the delivery of existing EWS, preparedness and response plans could result in more effective and efficient disaster management systems. If effective, DRR stakeholders such as UNDP could consider an extension to the methodology, focusing on the transition from disaster response to recovery.

(P4 N-6) Facilitate partnerships to mobilise humanitarian funding.

(P4 N-6) The digitisation of data collection and analysis methods across Niger should be further promoted to showcase the value of this transition to other countries across the region, and to pitch for additional funding to address gaps in coverage. Preliminary evidence demonstrating the increased cost-effectiveness and speed at which climate data can be garnered and used to inform EWS should be showcased through collaborations with media outlets such as the continental Disaster Risk Reduction Association of Journalists and the Thomson Reuters Foundation. This publicity, together with robust evidence (a small independent study may be required to bolster current evidence for the positive benefits of Niger’s digitisation), would make a strong case for inclusion in any climate change adaptation financing call. If successful, any expansion of the digitisation efforts should be accompanied by the creation of a sustainability plan to more thoroughly consider the means to ensure continued data collection, replacement of equipment as required, and training of new volunteers, as well as retention incentives. If effective, the data collection mechanism could be expanded over time to include other topics/vulnerabilities and could be used more proactively to inform anticipatory actions.

Chapter 8: Nigeria

Reader's guide:

- This section briefly describes the risk profile of Nigeria before summarising the progress and achievements made, and barriers and constraints, for each of the four priority areas of the African Union Programme of Action (AU PoA) (which mirror the four areas of the Sendai Framework).
- For each of the four priority areas, the summary of progress, challenges and barriers *specifically reflect* the Priority Activities from the AU PoA implementation matrix (see Chapter 1).
- Detailed recommendations are provided for each priority area, linked to the specific AU PoA Priority Activities. The coding system described in Chapter 1 is employed to help readers connect the recommendations to the AU PoA Priority Activities.
- Although specific national recommendations are provided, readers are encouraged to adapt the recommendations to other countries, as appropriate.
- Further details of Nigeria's progress on disaster recovery are included in Chapter 11.
- Details of the methodology (primary and secondary evidence collection and analysis) that informed this chapter can be found in Chapter 1 and Annex 4.
- Acronyms are written in full the first time they are used within the chapter.
- Chapter bibliographies are included at the end of the report, which are further separated into the general overview for each country followed by the priority areas.

General overview

Nigeria is a lower middle-income country in West Africa with a population of over 200 million people (World Bank, 2021a). The country is governed through a three-tier government structure: federal, state and local government (UNECA, 2015). The federation comprises 36 states and the Federal Capital Territory, and there are 774 Local Government Areas (LGAs) (UNDP, 2019). The structure is reflected in the tiers of the Emergency Management Agencies, with the National Emergency Management Agency (NEMA) responsible for disaster risk reduction (DRR) and response nationwide through its headquarters in Abuja and six zonal offices; State Emergency Management Agencies (SEMAs) at the state level; and Local Emergency Management Agencies (LEMAs) where established, as well as community-based organisations (UNDP, 2019).

Economic growth fluctuated over the previous decade, with an annual growth in gross domestic product (GDP) of 8% in 2010, falling to just 2.2% in 2019 (World Bank, 2021b). In 2019, average income reflected in GDP per capita was around US\$2,230 (World Bank, 2021c). According to the National Bureau of Statistics (2020), 40% of the population – 83 million people – live below the annual poverty line of US\$381.75. Services contribute the largest share of value-added GDP, followed by agriculture and manufacturing. Services also employ the largest proportion of the population, while agriculture, though in decline, continues to employ over a third of Nigeria's population (World Bank, 2021d; 2021e).

Nigeria ranks 161st of 189 countries on the Human Development Index 2020 (UNDP, 2020a). Over the past few decades, the country has succeeded in raising average life expectancy by nearly nine

years and expected years of schooling by over three years (UNDP, 2020b). However, challenges persist, not least in providing equal access to healthcare, education and economic resources for women (UNDP, 2020b). Unemployment rates are higher than average among youth, which is particularly concerning given that over half of the population are under the age of 19 years (ILO, 2021).

Lack of economic diversification, inadequate infrastructure and governance issues are some of the factors that make Nigeria vulnerable to economic disruptions arising from the COVID-19 pandemic. Oil accounts for 80% of the country's exports and half of government revenue (World Bank, 2020), so a steep decline in oil prices would affect government accounts and economic growth. External factors, such as reassessment of risk by foreign investors, will also greatly affect a country's economy. In 2020, COVID-19-related shock and recession were expected to push an additional 5 million people into poverty in Nigeria, totalling 7 million newly poor in 2020 (World Bank, 2020).

Risk profile

Nigeria is exposed to a range of hydrometeorological, environmental, biological and societal hazards. The country ranks 25th on the World Risk Index, and its lack of adaptive capacities to deal with a changing risk profile are particularly concerning (UNECA, 2015; Behlert et al., 2020). The Nigeria INFORM country risk profile describes the country's high levels of exposure to natural and human hazards, floods, conflict risk and violent conflict intensity, and highlights its lack of coping capacity, particularly in physical infrastructure and healthcare access (UN OCHA, 2021). Persistent violent conflict leads to high levels of fragility; in 2020, the country ranked 14 out of 178 on the Fragile States Index (2020), and over the past decade scored consistently poorly on social cohesion, and political and social risk indicators. Conflict and fragility undermine government capacity to respond to other hazards such as climate change (Moran et al., 2018).

Hydrometeorological hazard-related disasters

Nigeria is exposed and vulnerable to a range of climate-induced natural hazards including floods and droughts. The country is expected to experience a temperature rise of up to 2.5°C by the 2060s and up to 4.6°C by the 2090s, with the greatest increase projected for the north (World Bank, 2021f). The chronically arid north of the country is also projected to record the greatest increase in the duration of heat waves (World Bank, 2021f). Small rises in precipitation will be uneven across the country, with lower rainfall in eastern, central and southern parts of the country (Moran et al., 2018). Approximately 25% of the country's population live in high climate exposure regions: areas with highest overall exposure include coastal states with large population clusters, for example Lagos and Rivers (Moran et al., 2018).

Between 1980 and 2010, the country experienced 94 disasters attributed to natural hazards, affecting around 6.3 million people and killing 21,000, at a cost of US\$188 million (UNECA, 2015). Although floods were both the most common and the most economically devastating hazard, the 1983 drought affected more people, while disease epidemics led to most fatalities during that period (UNECA, 2015).

Flood intensity has increased over the last 30 years. The country experienced devastating floods in states along the Niger and Benue rivers in 2012 and 2017, in Lagos in 2011, 2012 and 2017, and in the Niger Delta in 2012 (Olanrewaju et al., 2019). The 2010 and 2012 floods affected 1.5 million and 7 million people, respectively; the 2012 floods were the most severe in the last 50 years.

Weaknesses in flood risk management are attributed to inadequate infrastructure and drainage, the absence of an integrated flood risk management system, poverty and institutional weaknesses. Nigeria's low elevation coastal states and cities, including the country's largest city of Lagos, are highly vulnerable to coastal flooding. A sea level rise of 0.5m may require relocation of between 27 million and 53 million people (Moran et al., 2018; Olanrewaju et al., 2019).

Around 3.5 million Nigerians are at risk of drought (UNECA, 2015). Northern Nigeria, which is an extension of the savannah, is highly exposed to droughts that are expected to continue, due to a decline in precipitation and rising temperatures (UNECA, 2015; Haider, 2019; UNDP, 2019). Dry spells of up to 14 days in the north-eastern Adamawa, Borno and Yobe States have severe impacts on agricultural yields (FAO, 2020). Droughts may also cause lakes in the country to dry up (Haider, 2019).

Environmental hazard-related disasters

Nigeria is exposed and vulnerable to a host of environmental hazards including land degradation, erosion and deforestation, pollution and wildfires. Deforestation, de-vegetation and unproductive land use are all contributing to land degradation (Federal Ministry of Environment Nigeria, 2018). In the south-east of the country, gully erosion and landslides have had a significant impact on infrastructure and livelihoods (UNDP, 2019). In the three coastal states of Lagos, Cross River and Delta, environmental degradation due to flooding, erosion and water pollution has cost 15,000 lives and US\$10 billion in economic damage, amounting to around 2.5% of Nigeria's GDP (Croitoru et al., 2020). While erosion has affected most land in Cross River State, Lagos will bear the highest cost of flooding and erosion, with costs of these environmental hazards forecast to increase across all three states (Croitoru et al., 2020).

Forests cover around 10% of Nigeria's territory; however, the country lost about 36% of its forest coverage between 1990 and 2005 (UNDP, 2019). Deforestation has direct and indirect drivers. Direct drivers include agricultural expansion and unsustainable wood extraction, while indirect drivers include rapid population growth that adds further pressures to demand for land (Crafford et al., 2017). The country is also experiencing high rates of desertification, with around 35% of arable land in 11 states overtaken by desert over the past 50 years, affecting the livelihoods of 55 million people (UNDP, 2019).

Pollution and waste are growing issues for Nigeria (Federal Ministry of Environment Nigeria, 2018). Croitoru et al. (2020) estimate that, in 2018, ambient air pollution cost 11,200 lives and US\$2.1 billion in health costs. The country generates around 63 million tonnes of waste annually, but only between 30% and 50% of waste is collected, with the rest randomly disposed (Federal Ministry of Environment Nigeria, 2018). Nigeria also has the highest level of plastic waste production in Africa, and a rapidly growing e-waste problem (Croitoru et al., 2020).

Biological hazard-related disasters

Inadequate healthcare provision, pollution, waste, and risk of flooding and other hazards leaves Nigeria at risk of disease outbreaks and epidemics including cholera, malaria, meningitis, measles, Lassa fever, yellow fever and avian flu virus (UNDP, 2019). The country is at high risk of epidemics, ranking 12 out of 191 on the INFORM epidemic risk index 2020(EC, 2020a). Waterborne diseases such as cholera, transported through the water system, are linked to excess rainfall (Olanrewaju et

al., 2019). Poor waste collection and management practices lead to rodent infestations and outbreaks of leptospirosis after floods (Olanrewaju et al., 2019).

Most recently, COVID-19 has strained the country's economy and health system, leading to price hikes, lower levels of stocks of goods compared with the previous year (ECOWAS et al., 2020), school closures, rising crime rates and community tensions. Containing the virus through social distancing is especially challenging in overcrowded camps, with humanitarian agencies unable to reach around 1.2 million internally displaced persons (IDPs) (EC, 2020b). By 25 August 2021, the World Health Organization (WHO) (2021) had confirmed 188,243 cases in Nigeria, with 2,281 deaths. By 23 August 2021, a total of 3,967,013 vaccine doses had been administered (WHO, 2021).

Societal hazard-related disasters

Nigeria experiences social, religious, political and resource-driven conflicts (UNDP, 2019). The country ranks at medium risk of conflict, and scores poorly on political stability and absence of violence and terrorism indicators (ECOWAS et al., 2020). Nigeria is now at the highest risk of fragility among West African countries and among the highest in sub-Saharan Africa, with fragility increasing in the last 15 years. Conflicts disrupt food production and put pressure on state institutions, contributing to their low capacity to address fragility and other hazards, such as climate risk (Moran et al., 2018).

Moran et al. (2018) identify three sustained sources of instability: 'conflict and famine risk in the North [where the country's military is fighting Boko Haram], rising violence between herders and farmers in the Middle Belt, and simmering tensions over management of natural resources in the Niger Delta' (Moran et al., 2018: 1). New areas of conflict have also emerged in the south-east since the 2015 elections (Vivekananda and Born, 2018). In the north-east, terrorism has replaced boundary disputes as a major driver of IDPs (UNDP, 2019). The country now has almost 3 million IDPs (UNHCR, 2021). Most live in relatively safe cities, but they face issues accessing amenities such as healthcare and shelters, which leaves them vulnerable to other hazards. Civil disturbances such as riots and demonstrations are another potential source of instability (UNECA, 2015).

Incidents of conflict reportedly increased in early 2020 (FEWS NET, 2020). In the north-east, violence forced 150,000 people to flee their homes and restricted another 1.2 million from humanitarian assistance (EC, 2020b). In north-west and central Nigeria, an uptick in conflict caused disruption to agriculture (FEWS NET, 2020).

Priority 1: Understanding disaster risk

Progress and achievements

Nigeria is engaged in a range of initiatives for monitoring and forecasting risk, including the Famine Early Warning System Network (FEWS NET), which uses scenario development to estimate food security outcomes for the coming four to eight months (FEWS NET, n.d.), and *Cadre Harmonisé*, which provides a harmonised framework for the analysis of food and nutrition security (FAO, 2011). Other sector- and hazard-specific agencies that contribute to understanding hazard risk include the National Water Resources Institute and the National Oil Spill Detection and Response Agency. Further, the Department of Erosion, Flood and Coastal Zone Management uses hydrological information to provide flood forecasting, monitoring and control division for flood forecasting and floodplain zoning (Federal Government of Nigeria, 2013a).

The Nigerian Meteorological Organization (NIMET) monitors, analyses and provides weather and climate information for the government and citizens across a range of timescales (NIMET interview, 2021). NIMET is considered one of the leading meteorological agencies in the Sahel region, providing technical support to meteorological initiatives of the Economic Community of West African States (ECOWAS) and neighbouring countries including the Gambia, Liberia, Malawi, Mozambique and Sierra Leone, among others (NIMET interview, 2021). NIMET reportedly uses the latest technologies and models to undertake short-to-long-range seasonal forecasts, among other products (NIMET interview, 2021). In addition, as climate-related disasters are such a feature of Nigeria's risk landscape, NIMET considers all DRR stakeholders to be an important consumer of their products and services (NIMET interview, 2021).

The Nigeria Hydrological Services Agency (NIHSA) provides federal, state and non-governmental agencies with data on all aspects of water resources, including hydrological mapping and baseline data on floodplain mapping. NIHSA also provides an Annual Flood Outlook, which includes probable flood scenarios and guidance on mitigating major flood risk (NIHSA, n.d.). The 2012 floods provided impetus to extend risk forecasting, with NIHSA issuing flood and drought forecasts through its Annual Flood Outlook, alongside nationwide monitoring of climate change on water resources. The Flood Early Warning System (FEWS), an initiative of the Federal Ministry of Environment in partnership with the United Nations Development Programme (UNDP), is an important tool (CADRI, 2012). Established in 2008, 'information and communication technologies, remote sensing, satellite and cellular mobile and geographic information systems (GIS) were incorporated into a web-based system for real time dissemination of information which would facilitate decision-making processes' (UNDP, 2019: 10). Reports suggest that this has increased flood resilience and reduced levels of risk and uncertainty around flood hazards.

The Nigeria Centre for Disease Control (NCDC) is mandated to identify and respond to infectious diseases and public health emergencies (NCDC, n.d.) and has undertaken specific initiatives on polio (UN News, 2015). At the time of the 2015 baseline, many initiatives on specific biological hazards – such as the Polio Emergency Operations Centre (POECs), established in 2012 – were regarded as a significant step forward, replacing poorly performing initiatives on polio eradication and immunisation (Shuaib et al., 2017). Other biological hazards are also monitored by the Federal Ministry of Health, including a National Influenza Sentinel Surveillance observing Avian influenza and other viruses (CADRI, 2012). Since 2015, progress has been made in several areas, including sector-/threat-specific advances such as the NCDC being formalised through an Act in 2018 (NCDC, n.d.), and Nigeria being declared polio-free in August 2020 (WHO Africa, 2020). The POECs also provide a useful model for establishing Ebola emergency operations centres, forming part of the preparedness and response operations (Shuaib et al., 2017).

In another example of a biological hazard surveillance system, the Integrated Disease Surveillance and Response (IDSR) system was developed by the Federal Ministry of Health in conjunction with the Nigerian Red Cross Society. The system increases local community awareness of exposure to hazards, utilising community-based volunteers to alert health authorities as required. The Nigerian Red Cross Society supports local organisations and vulnerable populations to interpret early warning information, and to take appropriate and timely action to minimise mortality and morbidity (Mashi et al., 2019).

Prior to the 2015 baseline, CADRI (2012) found that post-disaster needs assessments (PDNAs) were limited by capacity constraints and the lack of a systematic structure for coordinating such assessments. Where they are conducted, they were for ‘...isolated incidents by scattered agencies without coordination’ (CADRI, 2012: 21). While the Nigerian Red Cross Society uses damage assessment checklists, providing some degree of consistency in assessment, overall, there was little standardisation or consistency in post-disaster data collection. Since then, the Nigerian Red Cross Society has trained some staff on post-disaster assessment methodologies, which has allowed a template to be drafted on how to collect post-disaster data. With support from the British Red Cross, the templates have been adapted to smartphones and tests have been conducted at committee, divisional and sub-national levels. The data was then analysed and used to inform future programming (Nigerian Red Cross Society interview, 2021). Furthermore, NEMA is using a PDNA methodology and has shared this with key stakeholders (NEMA interview, 2021), although further empirical research is required to validate this and to comment on the effectiveness of the methodology in practice.

While disaster databases remain insufficient in Nigeria, with a national database previously covering the period 2005–2015 (UNISDR, 2017), efforts are ongoing in 2021 to establish the necessary foundations to enable reporting on DesInventar (a free, open-source disaster information management system) (NEMA interview, 2021). In 2020, NEMA conducted training with six SEMAs on DesInventar to build the foundations for developing a national disaster database. The 2021 NEMA budget also includes undertaking Vulnerability and Capacity Assessments at the state level, which can then be incorporated into future assessments of progress on the Sendai Framework and national-level progress (NEMA interview, 2021). This endeavour could be supported by a commitment to adopt the hazard definitions and classifications of the International Science Council (ISC) and the United Nations Office for Disaster Risk Reduction (UNDRR), which guide the terminology of the Sendai Framework for Disaster Risk Reduction (Global Network of Civil Society Organisations for Disaster Reduction (GNDR) interview, 2021).

Technical capacity on DRR is high in some topics and institutions, including NIMET, as noted above. NEMA has established six centres with universities based in six geopolitical zones for teaching and research on DRR (NEMA interview, 2021). NEMA has also conducted a trainers’ workshop on disaster information management systems and is planning to implement this tool across the country (NEMA interview, 2021).

Multiple awareness-raising initiatives have been undertaken, including, for example, sharing simplified versions of the Sendai Framework with public officials (GNDR, 2018), tackling epidemiological risks including COVID-19 and the corresponding infodemic (Dan-Nwafor et al., 2020), localised flood campaigns (GNDR, 2018), and more recently on climate change (Duru and Emetumah, 2016). The GNDR also convened the Views from the Frontline project (GNDR, 2019) to help document and raise awareness of disaster risk, and to help advocate and educate communities to speak up and engage the government in issues of risk reduction, preparedness and response (GNDR email exchange, 2021).

Localised hazard-specific awareness campaigns, such as the Centre for Disaster Risk and Crisis Reduction flyers on flood preparedness and response distributed at a household level, are carried out throughout the country (GNDR, 2018). The GNDR also hosts community platforms that allow

local organisations to input and design awareness-raising, advocacy and education campaigns on local DRR issues and to raise them with their respective authorities (GNDR interview, 2021).

There is ongoing progress in awareness-raising for specific threats such as climate change. Several studies have assessed the most effective mediums for relaying climate-related information, and agencies such as NEMA have engaged in sensitisation programmes with radio, newspapers and television, in addition to on-the-ground outreach (Duru and Emetumah, 2016).

More recently, advocacy and awareness-raising campaigns have been undertaken for COVID-19. As early as January 2020, the NCDC released updates on the outbreak and preventative measures, and continued to do so on social media throughout the pandemic (Dan-Nwafor et al., 2020). Daily Presidential Task Force briefings were convened to update the public on trends, evidence and government responses (Dan-Nwafor et al., 2020), providing information on safety protocols and treatment facilities, combating the infodemic, and outlining new COVID-19 Health Protection Regulations restricting public gatherings and enforcement of facemasks (Governor of Ekiti State, 2021).

Observations and recommendations

Challenges and barriers

Despite the efforts on monitoring and forecasting risk, concerns have been raised that the NEMA Act 1999 (Federal Government of Nigeria, 1999) does not adequately clarify or mandate risk assessments across local, state and federal levels, or how to use the findings to inform development processes (Mashi et al., 2019). Concerns that were raised in the Hyogo Framework progress reports in 2013–2015 remain, including the focus on hazard mapping rather than on vulnerability and capacity, and the compartmentalisation of risk information by sector and hazard – with the limitations frequently cited as financial resources and/or operational capacities (NEMA, 2014). Community-level risks are often unmonitored, and citizens can therefore be living at risk without full knowledge of those hazards (UNECA, 2015a). Centralised assessments, monitoring and reporting are required, and many interview respondents emphasised the need to ensure that a community-based, bottom-up approach is embraced for risk assessments, because such assessments are normally confined to the national and state level.

Disaggregated intersectional data on disaster impacts, vulnerabilities and capacities is lacking across the country. Specifically, focus on gender and intersectionality in disaster risk management (DRM) is notably absent – something that was also raised at the Senior Expert Consultation for this study (Africa Youth Advisory Board (AYAB) contribution, 2021). While a Gender in Disaster Risk Management policy was drafted (in collaboration with UNDP), this has remained in draft form since 2017, and NEMA has not been able to verify a timeline or process for its adoption (NEMA interview, 2021).

There remains a need for disaggregated intersectional data on disaster impacts, vulnerabilities and capacities. Intersectional data recognises that individuals' needs are differentiated (by age, gender, disability, ethnicity and other categories), and that these needs change over time (Chaplin et al., 2019).

While threat-specific surveillance mechanisms exist, often accompanied by risk communication through early warning systems (EWS) and alerts, there is currently no multi-hazard risk information and communication system that brings together hazard and risk information nationwide. This

prevents an in-depth or comprehensive understanding of intersecting and cascading risks across the country. Part of the impediment relates to the quality of current facilities. For example, while NIMET is considered one of the region's leading Met agencies, 'its facilities are in need of upgrading in order to create more robust and reliable forecasts, and to improve the agency's ability to disseminate weather information to farmers at the grassroots' (Haider, 2019: 26).

National DRM information and communication systems are key to linking surveillance systems to reduced impacts. Despite initial efforts to scale up capacity through NEMA training, challenges remain, including a lack of funds and specialist trainers (NEMA interview, 2021). Similarly, there has been limited progress on PDNA processes, beyond those by the Nigerian Red Cross Society. What currently exists is far from a fully systematised PDNA capability, with strengthening required in data collection, analysis and response planning (British Red Cross interview, 2021). There are, for example, still no standardised PDNAs (NEMA interview, 2021).

To maintain positive progress on biological hazards, namely disease control, Nigeria's primary healthcare system requires strengthening, until ideally there is at least one functional healthcare centre in each ward (WHO Africa, 2020).

In terms of efforts to develop the school curricula on DRR, the AUC biennial report found that, up to 2018, Nigeria made 'comprehensive' achievement in integrating DRR into their educational systems at all levels; though no country-level details are provided (AUC, 2020). Unfortunately, the NEMA Act has not been amended to compel educational institutions to deliver disaster modules (Federal Government of Nigeria, 1999; Mashi et al., 2019). The UNDP (2019: 102) highlights that the country still lacks a cadre of knowledgeable DRM experts. It also remains unclear whether the offer of university courses on DRM at graduate and post-graduate level has been further developed.

It would be helpful to strengthen the links between the NEMA-established research centres and policy and operational agencies to increase knowledge exchange on climate and disaster risk across the country, including through ministries at federal and state level. This could help avert some of the challenges at the state level. For example, in Lagos, it has been noted that the science-policy interface requires strengthening to improve state risk management and climate change adaptation plans:

Many respondents identified the gaps in science and technology together with urban development pressures as the most important factors constraining strategic transition towards transformation ... There are also fewer funding institutions for research and capacity building. To ascertain risk, planners and policy makers have in time past relied on hazard information from media sources but these are not always accurate or reliable (Ajibade et al., 2017: 19).

Recommendations

(P1 N-1) Mobilise resources for profiling, monitoring and assessing disaster risks.

(P1 N-1) Cross-scale consultations could be convened to take stock of the current availability, capacity and use of risk assessments, their hazard coverage and depth of information available on exposure, vulnerability and coping capacity. From this, disaster risk managers such as NEMA, in consultation with SEMA and LEMAs, could clarify the role of the NEMA Act 1999 (Federal Government of Nigeria, 1999) in the mandate for risk assessments across scales. The most positive examples gleaned from the stocktake could be used to demonstrate to other SEMAs and LEMAs (as

well as non-state risk management entities such as international non-governmental organisations (INGOs) and civil society organisations (CSOs)) the value of multi-hazard risk assessments and their use in informing decision-making – particularly around land-use planning and risk-informed development processes, and to update or create preparedness plans for the most vulnerable communities for the most likely hazards/threats.

(P1 N-2) Establish/strengthen technical structures for risk surveillance and assessment.

(P1 N-2) The data gaps in gendered impacts of disaster risk could be addressed by a more holistic approach, taking on board ideas of intersectionality to better understand the impacts, risks and vulnerabilities of sub-sets of society within Nigeria, including (but not limited to) the elderly, youth, people with disability, women, conflict-displaced people and other vulnerable categories. This will require integration of societal sub-categories into risk assessments, PDNAs and Common Alerting Protocols (CAP). The methodology for such studies can draw on existing work undertaken on the intersectional impacts of disaster risk (see Chaplin et al., 2019).

(P1 N-2) Given that biological hazards fall within the remit of the Sendai Framework and AU PoA, national and external financial support (including, for example, through the World Bank, African Development Bank (AfDB), and bilateral and multilateral donors) for dealing with the COVID-19 crisis could be extended into discussions beyond immediate response, to longer-term disaster recovery processes linked to a multi-year ambition to strengthen the primary healthcare system, in line with advice from WHO Africa (2020).

(P1 N-4) Establish/strengthen DRR databases.

(P1 N-4) Nigeria does not currently report on the DesInventar Sendai monitoring system. A political economy study could be undertaken to better understand the barriers, opportunities and return on investment for Nigeria to engage with improved disaster impact monitoring, to develop the technical systems required to document disaster impacts sufficient for reporting on DesInventar, and, importantly, to link any future ability to report accurately on disaster impacts and risk with economic and development planning at the central level – for example, to inform Nigeria Vision 2020 (Federal Government of Nigeria, 2009) monitoring and reprioritisation processes and subsequent policy development processes.

(P1 N-5) Establish DRM information and communication systems.

(P1 N-5) NEMA plans to implement a tool across the country to address the lack of a comprehensive, multi-hazard disaster information management system, but requires financial support and specialist training capacities to do so. Rather than take on this responsibility alone, a rejuvenation of the National DRR Platform could provide an important multi-stakeholder space through which greater awareness, buy-in and collaborative contributions to advance the tool nationwide could be instigated. The roll-out of the tool also provides the Platform with a concrete and actionable task, on which progress can be monitored and with the results directly benefiting all DRR-related stakeholders. Improvements in disaster risk information management may help provide more robust foundations for any decision-making on hazards, whether this is individual project design by civil society, local government development plans, or UN initiatives.

(P1 N-7) Integrate DRR in education and training.

(P1 N-7) Although some positive progress has been made by NEMA and the Educational Research Council on increasing the availability of higher-level courses on DRR, the subject has not been fully integrated into the school curricula. This could be a relatively straightforward ambition to achieve, given the plethora of national government experiences of doing so across the globe. Agencies with experience in this area, such as UNDRR and ECOWAS, would be well placed to take the lead in providing pre-existing, ready-made educational materials for easy adoption by Nigeria's educational bodies to encourage integration into the curriculum, with incentives to encourage commitment to doing so. For example, through prior agreements with the Disaster Risk Reduction Association of Journalists (DIRAJ), journalists can report on and showcase the Federal Ministry of Education's advancements in this area. To begin such conversations, the impact of hazards on educational progress can be highlighted, drawing on the Federal Ministry of Education's recent publications on the safe reopening of schools and learning facilities as part of their COVID-19 guidelines (Federal Ministry of Education, 2020).

(P1 N-9) Mobilise awareness-raising and advocacy initiatives.

(P1 N-9) While raising awareness of disaster risks is needed across the country, in line with the recommendations from other studies, consideration should be given to prioritising individuals with climate-vulnerable livelihoods, such as farmers and fishermen, who could be educated on the impact of climate variability and change on patterns of production (see Haider, 2019). This will require leadership by the Climate Change Department within the Federal Ministry of Environment, who can draw on the existing wealth of global technical tools and guidance notes to facilitate this awareness-raising.

(P1 N-10) Integrate and safeguard local DRM knowledge.

(P1 N-10) An empirical study could be undertaken to better understand the nature, use and documentation practices of local and traditional knowledge, beginning in a sub-set of states most at risk of disasters. Once this information gap is addressed – even partially – it will be more feasible to begin consultation processes from which guidelines can be developed about how local and traditional knowledge on reducing and managing disaster risks can be harnessed, shared and incorporated into formal DRM policies and practice by LEMAs and SEMAs. Active engagement by state- and local-level NGOs and CSOs will be important here to act as a bridge between the authorities and communities.

Priority 2: Strengthening disaster risk governance to manage disaster risk

Progress and achievements

NEMA was established in 1999 by the Federal Government through the NEMA Act, which saw NEMA transition from being relief-focused to the broader management of disaster risks, encompassing mitigation, preparedness, response and recovery (Federal Government of Nigeria, 1999; UNDP, 2019). NEMA is an independent agency under the Presidency. The Vice President is Chair of NEMA's Governing Council, which comprises ministerial-level representatives (UNDP, 2019). NEMA's mandate allows it to develop policies on DRM; monitor progress across the country; collate data across relevant agencies for forecasting, planning and operational activities; and champion public information campaigns (UNECA, 2015a; UNDP, 2019). In March 2021, the President approved the transformation of the NEMA DRR Unit into a department. This will enable NEMA to expand their DRR activities (Senior Expert Consultation, 2021).

The 2010 National Disaster Management Framework (NDMF) defines the coordinating structures for all relevant disaster management stakeholders across the country and the best practices for risk management. It provides a holistic framework for risk management (NEMA, 2010). Other important documents include the National Disaster Response Plan 2002 (NDRP) (NEMA, 2002), the National Contingency Plan 2011 (NEMA, 2011) and the National Pandemic Influenza Preparedness and Response Plan 2013 (Federal Government of Nigeria, 2013b).

A broad range of sectors and ministries are also active in disaster risk governance including ‘the Ministries of Environment, Town and Country Planning, National Environmental Standards and Regulations Enforcement Agency and National Oil Spill Detection and Response Agency’ (UNECA, 2015b: 43), among others.

To ensure national alignment of DRR activities with the Sendai Framework goals and ambitions, a technical committee was established in 2017. The committee created three important documents: the National Plan of Action for the implementation of the Sendai Framework for Disaster Risk Reduction (2015–2030); the structure and framework for the National Platform on Disaster Risk Reduction; and a National Policy on Disaster Risk Reduction (EnviroNews Nigeria, 2017; Mashi et al., 2019). In November 2019, NEMA launched and validated a new National Disaster Risk Management Policy (EnviroNews Nigeria, 2019). Many SEMAs and LEMAs have state- and local-level DRM plans, but this assessment was not able to determine quantitative figures on the coverage across the country, and this information is also not known by NEMA (NEMA interview, 2021). NEMA confirmed that local risk assessments are largely still in development (NEMA interview, 2021).

Nigeria has many legal provisions for enforcing various aspects of hazard exposure and risk mitigation. This includes, for example, the Environmental Impact Assessment Policy, requiring all major development projects to conduct an impact assessment (UNECA, 2015a). The Ministry of Environment has regulations on urban planning, pollution control and building codes, monitored by the National Environmental Standards and Regulations Enforcement Agency (UNECA, 2015a). There are also several Acts and policies to manage physical planning, such as the 1978 Land Use Act, the 1992 Urban Development Policy, the 1992 Urban and Regional Planning Act and the 2002 Housing and Urban Development Policy (CADRI, 2012). More recently, the Federal Ministry of Physical Planning has crafted a new Building Legislation (this was awaiting Senate approval at the time of the CADRI assessment). Deaths owing to poor construction have led to a renewed focus on and new building codes governing standards for the construction industry and regulating architects (African Review, 2018), although, as confirmed by interviewees, more needs to be done to address all the challenges documented in the 2012 CADRI review (GNDR interview, 2021).

Several regulations and policies exist in line with sectoral policies. Examples are the National Policy on Drought and Desertification, which includes land use regulation (UNECA, 2015a); the National Forest Policy; the National Biodiversity Strategy and Action Plan, which includes guidance on biosafety and the biodiversity–industry interface (CADRI, 2012); and the National Erosion and Flood Control Policy, which includes reviews of land-use laws and regulations and protection of marginal lands (CADRI, 2012).

Nigeria has made progress on specific intersectional dimensions of disaster risk, namely gender. In 2017, NEMA organised a workshop with UNDP to review a draft Gender in Disaster Management Policy. Organised around the four priorities of the Sendai Framework and the seven focal areas of

the NDMF, the policy provides gender-related guidelines for strategic, operational and institutional integration of gender into DRR (The New Minds Initiative, 2017). Similarly, a National Action Plan on Gender and Climate Change was created (Federal Ministry of Environment, 2020a: 26), which includes specific provision to ‘promote the implementation of gender responsive and sustainable adaptation and mitigation initiatives that will minimise risks associated with climate change’, alongside a range of other ambitions to ensure gender-sensitivity to climate change responses (which presumably includes climate-related disaster vulnerabilities and impacts). The Action Plan includes the ambition to ensure intersectional issues are considered, so that women, men, youth and vulnerable groups have access to, participate in and can benefit from climate change-related initiatives, programmes, policies and funds.

Observations and recommendations

Challenges and barriers

Concerns have been raised about the ability of NEMA to action the NDMF (NEMA, 2010), given the tendency to focus on response strategies rather than prevention and risk reduction – largely owing to inadequate funding (Aladegbola and Akinlade, 2012). The poor responses to annual flooding in Lagos and other coastal regions are often cited as evidence of the lack of sufficient planning and response management (Adefisoye, 2015). This is due, in part, to lack of data, and early warning and evacuation systems (Nkwunonwo et al., 2016).

The NDMF (NEMA, 2010) is yet to be translated into actionable and meaningful inter-sectorial activities, and the NEMA Act (Federal Government of Nigeria, 1999) does not include sufficient power to mandate coordination (Mashi et al., 2019). Similarly, the enforcement and implementation of complementary policies – such as the National Environment Policy, National Erosion and Flood Control Policy, National Biodiversity Strategy and Action Plan, and Climate Change Adaptation – has been raised as a concern (UNDP, 2019).

There are discrepancies within the secondary literature over the extent to which DRR is adequately covered by the NEMA Act, with some reports suggesting that the Act pivots NEMA towards broader risk reduction (UNDP, 2019), while others attest that DRR is not sufficiently included (Mashi et al., 2019).

There is uncertainty about the existence and functioning of a National DRR Platform, with some sources suggesting that it exists and was inaugurated in 2006 (UNECA, 2015b) or in 2010 (Olaniyan, 2020), while others find that no platform is operational (CADRI, 2012). NEMA (interview, 2021) confirmed that the Platform exists and last met in 2017. The existing National DRR Platform is potentially a valuable space for DRM, climate change, meteorological and humanitarian actors to share knowledge and activate coordination mechanisms; however, this has not been adequately utilised. Institutionalising regular meetings of the National DRR Platform, with designated representatives from sectoral ministries, could create immediate benefits for NEMA and could help to strengthen collaboration between NEMA and the Climate Change Department which is becoming increasingly necessary as climate-related shocks affect the country.

The empirical evidence identifies different opinions on the extent to which NEMA and the Department of Climate Change collaborate. Positively, for example, the Department for Climate Change played an active role in the development of the National Policy on Disaster Risk Reduction, the National Contingency Plan (NEMA, 2011), and capacity-building exercises (Department for

Climate Change interview, 2021). At the same time, NEMA suggested that collaboration could be strengthened (NEMA interview, 2021).

There are some ongoing limitations to the implementation and enforcement of regulations and legislative frameworks associated with the protection of specific ecosystems, such as the National Biodiversity Strategy, National Forest Policy and National Policy on Drought and Desertification. These include the lack of implementation strategy to translate regulations into changed practice, and outdated urban plans that do not reflect the current urban risk landscape. Concerns have also been raised over the adoption and enforcement of the regulatory environment, particularly at the decentralised level where legal and regulatory frameworks are not always adequately enforced (van Niekerk, 2014).

A notable gap in disaster risk governance coordination is the lack of systematic or formal links between the NEMA and state- or local-level DRR entities, and those focused on climate change (NEMA interview, 2021). Regarding the former, at the sub-national level, SEMAs have largely not attained full operational capacity, there is non-compliance by some LGAs, and NEMA lacks the authority to hold sub-national entities to account (Adefisoye, 2015). Regarding the latter, and more broadly, there was a general agreement amongst all Nigerian experts on the need for improved horizontal inter-agency synergy to advance preparedness and response, in addition to strengthening vertical coordination amongst governance levels (a long-standing issue, already highlighted in the report) (Senior Expert Consultation, 2021). To address this, NEMA confirmed that, as part of their 2021 plan of action, they will be reaching out to other governmental agencies, as well as UN agencies and other DRR stakeholders. Suggestions on how to operationalise inter-agency coordination include using round tables (the existing National Platform for DRR could serve this purpose and include other stakeholders that may not be part of it).

It has been difficult to determine the availability of data on progress against the Sendai Framework targets and indicators, or the monitoring capabilities at federal or state levels. Nigeria has not yet reported publicly on the Sendai Framework Monitor (as of March 2021) and even baseline data on disaster events, impacts and losses is not yet tracked on DesInventar – although NEMA have included this in their 2021 workplan and are preparing to report on the website (NEMA interview, 2021).

Recommendations

(P2 N-1) Formulate gender-responsive DRR policies and plans.

(P2 N-1) The NEMA Gender Unit could be supported through advocacy efforts of civil society stakeholders, such as the Nigerian Red Cross Society, GNDR Nigeria, and others, to ensure the Gender and Disaster Management Policy drafted in 2017 is validated by government, with a structured process in place for updating the Policy on the basis of new research on the gendered impacts of current and future disaster risks (see recommendations under Priority 1). Resourcing for the latter may be more viable if linked directly to the climate-related disaster risks, which could also provide an opportunity for the Gender Unit to work with their counterparts from the Climate Change Department who oversee the National Action Plan on Gender and Climate Change within the Federal Ministry of Environment. Collaboration will also be required to ensure any risk of duplication in understanding and acting on the intersectional risks and impacts of climate-related disaster risk

are avoided, and that lessons from the operationalisation of the Climate Change Department's National Action Plan on Gender and Climate Change are learnt, particularly at the state level.

(P2 N-2) Operationalise institutional frameworks.

(P2 N-2) Taking advantage of the NEMA DRR Unit being granted the status of Department, thanks to approval by the Presidency, the DRR Department could utilise its status to reinvigorate the National DRR Platform, and it could address the priorities of the multi-stakeholder group by reviewing the NDMF (NEMA, 2010), noting the significant changes that have occurred since its formulation. This includes, for example, the 2019 floods and the COVID-19 pandemic. The revised NDMF should be accompanied by a clear action plan that stipulates responsibility for achieving progress in line with specific timeframes. The revision should also ensure a full pivot towards DRR (rather than the narrower focus on disaster management), and that appropriate links are made to the plethora of relevant sectoral plans that could aid in the agenda to effectively manage risk across the country (including, for example, policies on biodiversity, desertification and climate change adaptation).

(P2 N-3) Create/reinforce multi-stakeholder DRR platforms.

(P2 N-3) The DRR Department is well placed to consider prioritising the reinvigoration of the National DRR Platform, and, with support from UNDRR, be provided with basic guidance on how to effectively convene, govern, chair and document the Platform's engagements. Without support to ensure that the Platform is well governed, enthusiasm and engagement by government and non-government actors will be lost; this is a prime opportunity to revitalise the Platform.

(P2 N-4) Formulate/reinforce legal and regulatory environment for DRR.

(P2 N-4) Given that risk accumulation is a major concern and potential setback for progress on DRR in Nigeria, a political economy study of the urban risk landscape in selected urban and peri-urban areas should be undertaken. The study should aim to assess the status of the enforcement of existing building codes, regulations and standards on urban planning. It could capture not only the current practice, barriers and constraints to enforcement of policies and regulations, but also the drivers and incentives for enforcement and accountability, with particular emphasis on the State Ministries of Physical Planning, along with other government ministries.

(P2 N-6) Align climate and DRR coordination mechanisms.

(P2 N-6) There are many requests from government and non-governmental stakeholders to increase the links between the Climate Change Department and NEMA's DRR Department. This might be best achieved through collaboration on specific technical studies, joint capacity-building endeavours and engagement in linked policy objectives. This recommendation does not include a specific ambition to bring the two entities together, but intends that closer collaboration will be fostered through the recommendations requiring joint action (as described in the recommendations throughout this report).

Priority 3: Investing in DRR for resilience

Progress and achievements

The Federal Government allocates 1% of its budget to an Ecological Fund. Of this, NEMA receives 20%, with the remaining 80% going to sub-national DRM entities and other ministries (van Niekerk, 2014; UNECA, 2015b; Mashi et al., 2019; UNDP, 2019). The Chairman of NEMA, the Office of the Vice

President, can approve further expenditure of the Fund where required (CADRI, 2012). NEMA (interview, 2021) confirmed that there is currently no national DRR investment plan, although the NEMA 2021 workplan includes the ambition to devise a DRR financing strategy. This will incorporate public–private partnerships and may begin with frequently recurring incidents such as household and industrial fire (NEMA interview, 2021).

NEMA (interview, 2021) has guidelines to support DRR integration into sectoral policies and plans, with the education sector being the most successful, through the mainstreaming of DRR in the curriculum (although evidence was not available to explore further).

Financing innovation for climate action is evident, with Nigeria being the first African nation to issue a security that raises funds for environmental projects: a N150 billion (around US\$847.5 million, as at 10 June 2021) Sovereign Green Bond programme (Federal Ministry of Environment, 2020b). Recently, the World Bank has discussed the next five-year Country Partnership Framework, with a US\$1.5 billion financing package to support post-COVID-19 recovery and poverty reduction (World Bank, 2020a). The Global Facility for Disaster Reduction and Recovery (GFDRR) is also investing in Nigeria on Sendai Framework Priorities 1, 3 and 4, including resilient cities and social resilience (GFDRR, 2020).

There are currently nine Green Climate Fund (GCF) projects in Nigeria under the Ministry of Environment, focusing on mitigation, adaptation and readiness activities (GCF, n.d.). The project durations are 2016–2020 and estimated GCF funding is US\$73.8 million (GCF, n.d.). As of 2021, the World Bank has 56 active projects in 256 locations across Nigeria (all projects, not all related to DRR), amounting to US\$15 billion – the top sectors being health, energy, education and public administration. DRR and climate change adaptation projects include those on COVID-19 preparedness and response, agri-climatic resilience in semi-arid landscapes, and sustainable urban and rural water supply.

Nigeria signed a memorandum of understanding (MoU) with the African Risk Capacity (ARC) in 2018 (ARC, n.d.a). Prior to signing, the ARC Secretariat worked with the government to build capacity to transfer risk to the international market and agreed financial contributions from both ARC and the government. On signing the MoU, a number of commitments were made that should bolster Nigeria’s DRM capacity, including receiving access to the Africa Risk View software and training, as well as training in drought, flood and tropical cyclone modelling (ARC, n.d.a). However, as of February 2021, Nigeria is not among the countries listed with a Country Operational Plan (ARC, n.d.b).

Government social protection and risk-transfer mechanisms exist across a range of sectors, including education and health, social housing, livelihoods, employment, social insurance and community support (Onyeonoru, 2018). Approved in 2016, the National Social Safety Nets project (NASSP) has been a significant advancement in this area. In response to the economic downturn resulting from a decrease in oil reserves, the NASSP established an electronic registry of eligible people, providing US\$25 per month per household plus a further conditional US\$25 a month (UNDP, 2019). This was funded by the government, with US\$500 million of International Development Association (IDA) credit from the World Bank (World Bank, 2020b). Progress to date has been described as ‘satisfactory’ against the project indicators (World Bank, 2020b). A total of 3.2 million direct project

beneficiaries have been recorded, with 1 million poor households expected to have received the conditional cash transfer by June 2019 (World Bank, 2020c).

The Nigerian Red Cross Society also has a Cash Based Interventions and Emergency Social Safety Net programme. In 2017 the Government of Nigeria paved the way for greater national social protection mechanisms targeting poverty reduction by approving the Social Protection Policy framework, a coordinating platform in the Presidency, and providing corresponding budget allocation (World Bank, 2019). The launch of the framework has been accompanied by a suite of programmes targeting different aspects of social safety nets, as well as social investments more broadly (World Bank, 2019). With regards to the latter, the Nigerian Red Cross Society has been operational in flood prone areas and in responding to COVID-19 (Nigerian Red Cross Society interview, 2021). Disbursements are based on an agreed food basket measure and are unconditional transfers, primarily delivered in the early recovery phase. The Nigerian Red Cross Society also provides conditional transfers through community vouchers for items including school fees and other services. In partnership with the American Embassy, the Nigerian Red Cross Society has provided seeds to flood-affected communities for dry and wet season farming (Nigerian Red Cross Society interview, 2021). Finally, the British Red Cross is planning to initiate forecast-based financing in Nigeria as part of its new programme of work (British Red Cross interview, 2021).

Other major financial arrangements include the Community and Social Development Project, with US\$75 million IDA credit, intended to help improve social and natural resources of vulnerable households in the north-east region (World Bank, 2016). The Project should contribute to disaster resilience, via improved natural resource management, new health centres and access to social services (World Bank, 2020c). There are also several funds directed specifically to northern Nigeria, including from the Islamic Development Bank, and the government's development of a comprehensive reconstruction plan for the region (IDB, 2016).

Finally, strengthening human capital dedicated to enhancing DRR knowledge management and practice features under Priority 3 of the AU PoA. As mentioned in Priority 1, six universities have been established in collaboration with NEMA in different geopolitical zones for post-graduate research on DRM. Some NEMA staff are students of those centres (NEMA interview, 2021).

Observations and recommendations

Challenges and barriers

It is widely understood that the funds to NEMA from the Ecological Fund are below what is required, and thus what is allocated largely goes to disaster response rather than prevention, preparedness or recovery (Mashi et al., 2019). The budget is widely considered insufficient even for emergency response. NEMA frequently requests further investment to '...bring its operations to acceptable international standards, with timely and adequate emergency responses' (UNECA, 2015a: 36).

Nigeria Vision 2020 (Federal Government of Nigeria, 2009: 83) briefly mentions the objective to 'reduce the occurrence and impact of environmental hazards and disasters', though the focus in the subsequent mentions of disasters is on search and rescue and emergency response (Federal Government of Nigeria, 2009; CADRI, 2012). DRR stakeholders recommend that as part of the mid-term review of the medium-term national economic development plan, DRR should be integrated into all sectors of the economy to ensure adequate budgetary provisions – this could be challenging, but Nigeria could refer to the success of other countries who have managed to better integrate DRR

across sectoral budgetary portfolios. To support this, there is a need for operational guidelines for mainstreaming DRR into all sector and cross-sector development policies and programmes. While NEMA suggested that these do exist, the research team was unable to obtain evidence to satisfactorily assess the extent to which such guidelines are current, are employed, or include specific guidance on enabling enhancing investment and budgetary allocation to DRR from sectoral budgets.

While government-led social protection systems exist within Nigeria, overall coverage and their effect on welfare is 'either minimal or unknown' (World Bank, 2019: 18) – their effectiveness in terms of reducing disaster risk or impacts is unknown. The largely public sector programmes suffer from:

(i) fragmentation and limited coordination among different tiers of the government; (ii) limited fiscal resources devoted to social protection and social assistance programs; (iii) low coverage and adequacy of social safety net programs; (iv) poor targeting and leakages among current social protection programs; (v) absence of social protection programs that link to productive employment and skills training platforms; (vi) limited social insurance programs that cover against idiosyncratic shocks; and (vii) lack of data and information to inform policymaking (World Bank, 2019: 25).

Further work is required not only to better understand and improve existing mechanisms, but to understand what is anecdotally considered to be informal social protection provided through social networks that have a material impact on individuals and families at the community level.

While there is a private insurance industry in Nigeria, coverage is limited and insufficient to systematically or comprehensively enable risk transfer or mitigation (NEMA interview, 2021). This is also the view of CSOs, who reported that insurance coverage is not readily available in a format that can help risk transfer for different types of disasters (GNDR email exchange, 2021). In 2016/2017, it remained the case that insurers had paid insufficient attention to climate risks and the impacts of climate- and weather-related losses on the industry (Elum and Simonyan, 2016 in Haider, 2019). There were calls for the government to provide a supportive policy environment to encourage private insurance firms to engage with public-private partnerships to provide insurance to the agricultural sector for climate-related risks (Elum and Simonyan, 2016).

It has been difficult to ascertain the extent to which DRR is integrated into sectoral budgets, or at the local and state level, partly due to methodological restrictions of the study, but also because this information is not readily available to the key DRR stakeholders in the country. This latter point reveals a more concerning challenge: the information and data gaps around whether, how and to what extent disaster risks are being addressed and financed through non-DRR specific interventions, agencies and actors. Without this information, NEMA can only reach a partial understanding of the disaster financing landscape within the country.

Finally, the development of safety guidelines on schools, health facilities and critical infrastructure fall under Priority 3 of the AU PoA. For Nigeria, there are currently no clear documents for incorporating DRM guidelines into critical infrastructure. A 2014 collaboration between NEMA and UN-Habitat aimed to design building codes and guidelines, but the project could not be implemented (NEMA interview, 2021). Sub-standard buildings and lax enforcement of regulations have left some schools highly exposed to collapse. In 2019, a school building collapsed in Lagos,

resulting in 10 deaths and prompted questions about the fact that the building had been listed for demolition (BBC, 2019). In the 2018 Children’s Day celebrations, the issue of educational disruption owing to flooding featured heavily in some states, such as Ibadan (Nigerian Tribune, 2018).

Recommendations

(P3 N-1) Design/operationalise national DRR investment plans.

(P3 N-1) NEMA plans to devise a DRR financing strategy as part of its 2021 workplan. It intends to focus on frequently recurring incidents, such as household and industrial fires. To complement this, NEMA could consider the entry point of biological hazards, drawing on public and private entities’ recent experiences with COVID-19 and the 2019 floods, and the disruption that these hazards caused to commercial business and economic activity, to motivate engagement and commitments to action. NEMA’s ability to articulate current and future risk scenarios across the country, and the implications on key sectors and economic trajectories, will be critical to this endeavour. The latter will likely require technical support from partners such as the World Bank and GFDRR, as well as peer support from entities such as the ECOWAS Humanitarian Affairs and Disaster Management Division to share examples of other DRR investment plans from the region, and AU from across the continent, to help inspire and provide a coherent structure and process for formulating this DRR financing strategy.

(P3 N-2) Develop/strengthen national disaster risk financing mechanisms.

(P3 N-2) A scoping study could be conducted to assess the feasibility of adapting future phases of the government social protection mechanisms, and the NASSP or similar social safety net mechanisms to be shock responsive, or better still to integrate aspects of anticipatory action (see Wilkinson et al., 2020). Given the relatively high level of understanding of disaster risk across the country, the hazard monitoring that takes place, and the ambition to mature risk communication systems, Nigeria would be well placed to develop more ex-ante financial mechanisms for dealing with recurrent and predictable risks. To achieve this, the range of limitations documented by the World Bank (2019) would need to be addressed in tandem. This includes, for example, identifying a lead agency with the mandate and ability to work across the three tiers of government, improving the targeting of social protection programmes, and finding ways to protect those working outside the formal sector (World Bank, 2019). The World Bank (2019: 37) recommends a future scoping study that assesses ‘the performance of social protection programmes in relation to the management of social (conflict/fragility), economic, and natural (climate change, adverse weather events) shocks and implications for overall labour market functioning’.

(P3 N-2) Data and information gaps on the extent to which aspects of DRR/DRM are integrated – whether explicitly or implicitly – into the wealth of official development assistance (ODA) that is being channelled into north-eastern Nigeria warrant examination. The findings from such an examination may then be useful material to demonstrate further progress being made by Nigeria against the AU PoA and the Sendai Framework. It would also provide a more robust understanding of the opportunities to integrate stronger action on risk management and reduction into current and future initiatives in the region.

(P3 N-5) Develop DRM guidelines on safety of schools, health facilities and critical infrastructure.

(P3 N-5) Using the Federal Ministry of Environment's recent publications on safely reopening schools and learning facilities in the wake of COVID-19, similar calls should now be made to extend this to include school safety guidelines for a broader range of hazards and, importantly, for multi-hazard environments, for the most likely risks. While tailoring to the local- and state-level context will always be required, regional- and continental-level disaster risk experts could offer to provide the Federal Ministry of Environment with existing guidelines and templates from similar initiatives world over, thus making the process more efficient.

Priority 4: Enhancing disaster preparedness for effective response and to 'build back better' in recovery, rehabilitation and reconstruction

Progress and achievements

Nigeria has a range of policy documents and frameworks guiding the DRM cycle. These include the 2002 National Disaster Response Plan (NDRP) (NEMA, 2002), which sets out how local, state and federal government can work together and in collaboration with internal and local stakeholders and private sector in response. The NDRP was developed to support NEMA in disaster response coordination (UNECA, 2015a; UNDP, 2019), and 'was given legislative backing through its formal endorsement by the Federal Executive Council' (UNECA, 2015a: 23). The NDRP '...establishes a process and structure for the systematic, coordinated, and effective delivery of Federal assistance, to address the consequences of any major disaster or emergency declared by the President of the Federal Republic of Nigeria' (NEMA, 2002: 1). According to UNECA (2015a: 24):

[T]he plan identifies 13 support service areas required for disaster management: transport, communication, public works and engineering, firefighting, information and planning, mass care, resource support, health and medical services, search and rescue, hazardous materials, food and water, energy, and military and police support.

The NDRP defines response procedures and outlines the roles of the different relevant agencies, and it was satisfactorily activated for the 2012 floods.

Other important documents are the National Contingency Plan (NEMA, 2011), the Armed Forces of Nigeria Pandemic Contingency Plan and the Military Assistance to Civil Authorities Disaster Contingency Plan. The NDRP is intended to be used in conjunction with other Federal agency emergency operational plans, as well as any other governance arrangements such as MoUs with Federal agencies and private organisations. In complement, states and local government are intended to develop their own response plans.

NEMA is mandated to craft and operationalise all aspects of DRM policy and planning in Nigeria, including preparedness and response in coordination with other key stakeholders and sub-national entities (CADRI, 2012). At the time of the baseline in 2015, progress reports on the strength of disaster preparedness for effective response were positive, with the existence of the National Contingency Plan with Standard Operating Procedures (SOPs) focusing on the main hazards including flood, conflict, drought and disease epidemics. The Plan outlines the readiness of key disaster management stakeholders and the modus operandi for engaging international assistance as/when required (UNECA, 2015a). It also includes sectoral responses, including for camp management, education, food and nutrition, logistics and telecommunications, security and protection, water and sanitation, health and emergency shelter (UNECA, 2015a). At the time NEMA also coordinated with SEMA in the 36 states to encourage and develop state-level contingency plans complementary to

the National Plan, with some states directing local government to establish corresponding local emergency management plans (UNECA, 2015a).

NEMA coordinates a search and rescue department headed by a military officer. The Armed Forces also have a Pandemic Contingency Plan, developed to guide national response to global pandemics. The framework sets out objectives for a range of pandemic management actions, including post-pandemic recovery and coordination with ECOWAS, where required (UNECA, 2015a). There is also a Military Assistance to Civil Authorities Disaster Contingency Plan, which focuses on military assistance to civilian authorities in times of natural or man-made disasters and national emergencies. Under the control of the President and NEMA, this Plan is intended to direct Armed Forces support of civil authorities following epidemics, floods, wildfires, storms and drought. According to UNECA (2015a), the Plan was developed in 2013 but is yet to be utilised.

NIMET is the main provider of weather forecasts and advises on weather and climate, with early warning alerts on disaster threats nationwide (Mashi et al., 2019). Positive progress is reported in terms of NIMET using World Meteorological Organization (WMO) standards for data collection and analysis, adapting their annual forecasts to support planning in key sectors such as agriculture, water resource management and disaster management (UNECA, 2015a). On 19 September 2018, the Federal Government and WMO signed an agreement for the establishment of the WMO Sub-Regional Office for North Central and West Africa in Abuja (WMO, 2018). During the signing ceremony, Nigeria's Minister of State for Aviation announced that a new Civil Aviation Bill before the Legislature would increase NIMET's funding. The Director General of NIMET disclosed that NIMET needs approximately 9,000 weather stations to cover the whole country and that they will be 'targeting 1,000 stations within the next four years', adding that there were only 54 stations in the country when the Director General took office in 2017 (WMO, 2018).

Despite the scale-up in infrastructure that is still required, it has already been reported that 'NIMET produces the Seasonal Rainfall Prediction (SRP) which provides forecasts on the most frequent weather and climate parameters and its impacts. It also provides the necessary early warning and advisories on adaptation and mitigation of these negative impacts' (Federal Ministry of Environment email exchange, 2021). Furthermore, there are reports that 'integrating climatic data into national plans has considerably reduced agricultural failure, flood incidence, dam collapse and weather-related diseases' (UNECA, 2015a: 30).

NEMA and university centres also utilise remote sensing and GIS to assess hazard risk, as does the National Space Research and Development Agency for hazard risk monitoring and management in collaboration with the National Centre for Remote Sensing (UNECA, 2015a).

In the 2017 self-assessment (UNISDR, 2017), Nigeria reported that the multi-hazard monitoring and forecasting systems consider all major hazards in the country: meteorological, hydrological, climatological, biological, technological, environmental and man-made. Similarly, a WMO member survey reported the existence and functioning of a Multi-Hazard Early Warning System (WMO self-assessed survey, reported in MetServices, 2019). Anecdotally, many disaster managers in Nigeria have also reported that multi-hazard monitoring and forecasting systems are in place (Senor Expert Consultation, 2021). Concerns have been raised by DRR stakeholders about the existence and functioning of such systems, however – see further discussion below under challenges and barriers. .

Positive progress is being made as capacity continues to be built for preparedness and response, with simulation exercises taking place on a range of threats. For example, NEMA has conducted several simulation exercises to test command and control structures in the field. This includes simulation of an aeroplane emergency landing, shopping mall attacks and search and rescue drills (NEMA interview, 2021). Interviewees also described training for volunteers, including through the Nigerian Red Cross Society, on preparedness and response (British Red Cross interview, 2021; GNDR interview, 2021; Nigerian Red Cross Society interview, 2021).

Observations and recommendations

Challenges and barriers

Despite the positive claims made through self-assessments and interviews, the CADRI (2012) report notes that hazard monitoring is uncoordinated and inadequate. At the time, the systems in place were not systematic and the diffusion of alerts to local communities inconsistent (CADRI, 2012). For floods, for example, there was no coordinated monitoring or established EWS, most of the river systems did not have functional water level gauges and those that existed were not integrated into a coordinated system (CADRI, 2012). Similarly, the UNDP baseline study on disaster recovery in Africa (2019: 30) states that ‘...there is no effective national early warning system in place for floods, at the federal or state and local/community levels’, despite the 2008 UNDP-funded Flood EWS and the NIHSA flood EWS. This is further confirmed by Olanrewaju et al. (2019: 1), whose study ‘reveals poorly managed health reforms and argues that in spite of government’s disaster management policies, there is an absence of organised and coordinated institutional structures to plan and respond to flood emergencies. [...] [D]iarrhoea outbreak was the predominant waterborne disease associated with flood disasters.’ Given that coverage of EWS remains low (see below), and a broad set of stakeholders have raised continued concerns about the lack of effective EWS reaching communities at risk of floods and other hazards, it is clear that there is much still to be done in developing an effective DRM system.

While the 2002 NDRP was activated for the 2012 floods, concerns have been raised about the lack of recognition of the role of the community in the response (UNECA, 2015a). More broadly, UNECA reports that government actors also need to be more involved in emergency preparedness and response: ‘The low uptake of emergency preparedness and response activities by ministries, departments and agencies inevitably reduces the capacity of responding agencies in times of disaster and, by implication, people are more vulnerable and disaster risk is higher’ (UNECA, 2015a: 40).

The reported number of people per 100,000 covered by early warning information through local governments or national dissemination mechanisms is very low: 250 people per 100,000 (MetServices, 2019). There is no data on the number of people able to access early warning information through local governments (UNISDR, 2017). Early responders at the local level are not connected to EWS of higher tier agencies and thus are unaware of available information, which limits preventative action to mitigate the disaster risk.

While progress has been noted by NEMA in many areas of disaster preparedness, concerns remain around the physical infrastructure for preparedness and response. For example, ‘hospital equipment is inadequate [...] Rural areas are poorly served [...] fire service is inadequate [...] search and rescue operations are also limited by a lack of appropriate equipment and skilled personnel’ (UNECA, 2015a: 39).

Significant uncertainty exists around whether Nigeria has a functioning multi-hazard EWS. While a National Contingency Plan exists (NEMA, 2011), and self-assessments repeatedly suggest that multi-hazard forecasting takes place, national stakeholders often stress that, in practice, alerts largely do not reach at-risk populations, and institutional SOPs for different hazards are not operationalised in a coherent or coordinated manner. Legislative reforms are required to ensure ministerial responsibility is nominated for conducting risk assessments and early warnings, with the subsequent link to use that information to guide investment and development decisions (Mashi et al., 2019).

Concerns remain regarding the fact that the 1999 NEMA Act (Federal Government of Nigeria, 1999) does not give NEMA powers to enforce the SOPs developed to respond to different kinds of emergencies. At the time of the 2015 baseline, good working relationships were evident between NEMA and SEMA, and between SEMA and key state-level stakeholders including the Nigerian Red Cross Society and the military, and the private sector. However, such coordination was largely ad hoc and based on individual personal networks, making the system vulnerable. One of the main weaknesses is the awareness, implementation and coherence of SOPs for emergency response. Incident Command and Control is intended to harmonise SOPs, but this largely falls to the first organisation present on the scene. In post-disaster contexts each agency usually works to their own SOP; current SOPs tend to detail what should be done, but not how (CADRI, 2012). Furthermore, 'most responders rely solely on GSM (2G mobile) communication for alerts, with different numbers for each GSM operator, and GSM is also used for interagency communication without access to radio communication' (CADRI, 2012).

Despite progress in building the capacity of volunteers through the Nigerian Red Cross Society for preparedness and response, coverage is patchy and volunteer turnover remains a concern (British Red Cross interview, 2021; GNDR interview, 2021; Nigerian Red Cross Society interview, 2021). Although EWS are in place and national agencies are technologically advanced, information does not systematically reach local responders and at-risk populations, partly due to inadequate infrastructure, as noted by NIMET (interview, 2021). This further highlights the need for effective decentralisation and localisation of DRM. Local disasters are largely managed by volunteers (such as the Nigerian Red Cross Society and the Grassroots Emergency Management Volunteers Corps) or the impacts simply absorbed by local communities. The presence of structured LEMAs, working with organisations already in the field, would help to address these gaps and to support collaborations for training and capacity-building.

From the assessment findings, it is clear that substantial investments are needed for the establishment of localised DRM plans and action, through the LGAs. Such plans require adequate funding and technical support. In previous reports, the lack of LEMAs was highlighted as a significant barrier to enacting greater risk reduction measures at the local level (see, for example, CADRI, 2012; van Niekerk, 2014; UNECA, 2015a) and this challenge has been confirmed as ongoing by NEMA (interview, 2021). LEMAs would also be well placed to support the integration of traditional knowledge into DRR and disaster response plans and operations, including the use and understanding of EWS, which is a gap in Nigeria's progress on the Sendai Framework and AU PoA targets. The positive experience of the Emergency Operations Centres network in successfully signalling and initiating responses to epidemics in the country could serve as a useful reference. Further support to SEMAs is also needed, for example through the allocation of regular funding and routine training, particularly for new staff.

Overall, in terms of emergency preparedness and response, UNDP (2019: 102) reports that it is still necessary 'to move from a culture of response to one of long-term recovery and resilience in order to address long-term vulnerability and risks'. Similarly, while the term 'disaster recovery' is included in various documents (such as the NDMF), the general perception by key stakeholders is that there is a lack of understanding about what this means in practice, and what a Nigerian approach to disaster recovery could feasibly look like, given the current challenges in enacting effective preparedness and response measures.

Recommendations

(P4 N-1) Strengthen multi-hazard early warning systems.

(P4 N-1) Significant uncertainty exists over whether Nigeria has a functioning multi-hazard EWS. At present, reports on the state of EWS can be contradictory and opaque, limiting insights into what future actions should be taken to help extend, improve and advance early warning for hazards across the country. To help address this, UNDRR should strengthen its validation and evaluation processes for self-reporting on the Sendai Framework. This would help to ensure that future reporting on the Sendai Framework does not risk misrepresenting the state of EWS and provides an official status update on the level of coverage, quality of early warnings and future investments required. Relatedly, a technical assessment could be undertaken to better understand the potential interoperability of Nigeria's existing hazard and risk assessments and EWS for hazards, to better understand the extent to which a multi-hazard EWS could be enacted, and the steps that would need to be taken to achieve such a goal.

(P4 N-2) Develop national preparedness and response strategies incorporating gender and 'build back better'.

(P4 N-2) The proposed 2021 revision of the NDMF by NEMA could be preceded by a series of technical innovation workshops to increase technical knowledge and awareness of the latest global thinking on disaster recovery, to showcase examples of effective disaster recovery frameworks and practices from across the continent, and to propose a range of possible ideas for how Nigeria might develop its own approach to disaster recovery and build back better. Without such a support process, there is a risk that any revision to the NDMF will be tokenistic, with the latest terminology and phrases on disaster recovery and build back better being adopted without adequate tailoring to the current challenges and opportunities.

(P4 N-2) Given the need to ensure that the development of a distinctly Nigerian approach to disaster recovery and build back better is realistic, and noting the current lack of formalised disaster recovery processes reaching the state and local level, it is recommended that the development of a revised NDMF could be informed by a comprehensive assessment of current approaches to post-disaster recovery taken by disaster-affected communities. This includes, for example, exploring ideas on self-recovery, which recognises that 'most disaster-affected families rebuild their homes relying on their own resources, with little or no external assistance' and works with this reality to support approaches to safer self-recovery (Twigg et al., 2017: 9). The study should be devised in a robust methodological manner by a reputable research institute, and entities such as the Nigerian Red Cross Society and GNDR may offer logical partners for data collection.

(P4 N-3) Create/strengthen national preparedness and response institutions.

(P4 N-3) Several institutional and governance arrangements for preparedness and response should be clarified. This includes, for example, establishing and simulating clear command and control processes for all relevant stakeholders involved in disaster response. Where simulation exercises reveal inconsistencies between agencies’/institutions’ SOPs, these should be worked through and adjusted to enable more effective operational deployment in real-life situations. In complement, a contingency plan for the rapid deployment of NEMA’s GIS Unit to undertake mappings could be established and simulated, to test the effectiveness of this additional actor in disaster response situations. In advance, the GIS Unit’s information technology (IT) hardware and software could be updated – this should be covered by NEMA’s DRR investment plan for 2021 (see P3 N-1) and could include, for example, a public–private partnership with divisions of tech companies such as GoogleEarth, to upgrade software, IT infrastructure and internet connectivity.

(P4 N-3) During the Senior Expert Consultation (2021), participants discussed and recommended that all agencies involved in DRR in Nigeria should be involved in the Common Alerting Protocol (CAP), a web-based platform that enables agencies to disseminate information on risks as quickly and accurately as possible. CAP is a multi-hazard system, which would allow multiple agencies to be involved, including the Nigeria Television Authority in information dissemination, given that it can be integrated into SMS (Senior Expert Consultation, 2021).

(P4 N-4) Develop comprehensive preparedness and response plans.

(P4 N-4) Despite the existence of a National Contingency Plan (NEMA, 2011), NDRP (NEMA, 2002) and various sectoral contingency, preparedness and response plans, there is widespread agreement that, operationally, the plans are not being enacted effectively in cohort with SEMA and LEMA preparedness and response plans (where they exist), nor do they sufficiently recognise the role of local communities in preparedness and response. As part of their engagement with a revitalised National DRR Platform, CSOs, networks and agencies that have extensive existing reach within local communities – such as the Nigerian Red Cross Society – could advocate for greater recognition of the role and contribution of local actors and communities in preparedness and response. This should be done with due recognition in SOPs, contingency plans, and the revision to policies and frameworks including the NDMF. Greater visibility for the role of local action would also pave the way for linked recommendations related to the need to better document and value local and traditional knowledge of DRM (see Priority 1 recommendations) and deepen the collective understanding of self-recovery processes (see above).

(New area) Many gaps remain in understanding, evidence and action on reducing natural hazard-related disaster risk in north-eastern states. Advancing application of DRR principles into crisis recovery programmes, applying conflict sensitivity to DRR projects, and integrating DRR into peacebuilding programmes would be worthwhile test cases for deepening the collective understanding of how to advance DRR in conflict contexts. Under existing projects, such as the UNDP Sahel Resilience Project, there are plans to conduct joint risk analysis with the Lake Chad Basin Commission to bring together DRR, climate change and conflict-related risks to inform stabilisation and recovery efforts in the Lake Chad Basin, including north-east Nigeria. This could be a useful starting point for developing such a methodology, which could then be usefully applied to contexts where natural hazard-related disasters and conflicts co-exist across the ECOWAS region.

Chapter 9: Senegal

Reader's guide:

- This section briefly describes the risk profile of Senegal before summarising the progress and achievements made, and barriers and constraints, for each of the four priority areas of the African Union Programme of Action (AU PoA) (which mirror the four areas of the Sendai Framework).
- For each of the four priority areas, the summary of progress, challenges and barriers *specifically reflect* the Priority Activities from the AU PoA implementation matrix (see Chapter 1).
- Detailed recommendations are provided for each priority area, linked to the specific AU PoA Priority Activities. The coding system described in Chapter 1 is employed to help readers connect the recommendations to the AU PoA Priority Activities.
- Although specific national recommendations are provided, readers are encouraged to adapt the recommendations to other countries, as appropriate.
- Further details of Senegal's progress on disaster recovery are included in Chapter 11.
- Details of the methodology (primary and secondary evidence collection and analysis) that informed this chapter can be found in Chapter 1 and Annex 4.
- Acronyms are written in full the first time they are used within the chapter.
- Chapter bibliographies are included at the end of the report, which are further separated into the general overview for each country followed by the priority areas.

General overview

Senegal is a lower middle-income country with a population of 16.3 million located in West Africa (World Bank, 2021a). The country is divided into 14 regions, 45 departments, 123 boroughs and 126 municipalities, including 5 cities, 46 district municipalities and 385 rural districts (Ministère de l'Intérieur du Sénégal, 2017).

Between 2014 and 2018, Senegal achieved over 6% growth in gross domestic product (GDP), although in 2019 growth dipped to 5.3% (World Bank, 2021b). Over the past decade, GDP per capita has steadily increased to reach US\$3,545 in 2019 (World Bank, 2021c). The proportion of the population living above the US\$1.9 Purchasing Power Parity (PPP) 2011 threshold was projected to decline from 38% in 2010 to 33.5% in 2018, and down further to 30.9% by 2021 (World Bank, 2019). Services are the main driver of GDP growth and the largest source of employment (UNDP, 2020a; World Bank, 2020). Like other West African countries, Senegal is struggling to create sufficient job opportunities for its young population, leading to high levels of unemployment among the young (UNDP, 2020a).

Good agricultural performance, cash transfers and better social services have all contributed to declining poverty rates (World Bank, 2019). However, despite current positive trends, rapid population growth means that the number of people living in poverty is projected to increase (World Bank, 2019).

Senegal is making steady progress in improving life expectancy, increasing access to education and raising overall living standards (UNDP, 2020b). Nevertheless, in 2020 the country ranked towards the

lower end of the Human Development Index, at 168 of 189 countries (UNDP, 2020a). Senegal experiences high levels of inequality, with a Gini coefficient of 40 in 2011 (UNDP, 2020a). Gender inequality remains high. In 2019, the country ranked 130 out of 162 on the Gender Inequality Index, reflecting women's unequal access to education and healthcare, and lower levels of participation in the labour market compared with men (UNDP, 2020b).

In 2020, the COVID-19 pandemic impacted services and exports, slowing economic growth to an estimated 1.3% (World Bank, 2020). Senegal's vulnerability stems from 'limited fiscal buffers and safety nets, a vulnerable healthcare system, and a large informal sector' (World Bank, 2020). The World Bank (2020) anticipates that private consumption and investment will drive economic recovery in the country.

Senegal has a relatively stable political and security environment, although the country has experienced low-grade conflict in the Casamance region since the early 1980s, with refugees fleeing to neighbouring Gambia and Guinea Bissau (USAID, 2017). Conflict from Mali and neighbouring countries may spread to the country, although Senegal itself is not at risk of violent conflict (Seyferth, 2014).

Risk profile

Senegal is vulnerable to hydrometeorological, environmental, biological and societal hazards. The country ranks 45th on the World Risk Index, reflecting its high exposure and vulnerability to natural hazards including sea-level rise, floods and droughts, and lack of coping and adaptive capacities (Behlert et al., 2020). Disaster losses have impacts across all sectors, affecting crop and livestock production, and damaging buildings and infrastructure (Behlert et al., 2020). Climate change will affect Senegal through higher temperatures, sea-level rises and rainfall variability. Sea-level rise will expose 110,000 people to coastal erosion (CADRI, n.d.), while storm surges will leave low-lying areas of the country exposed to floods and saltwater intrusion. Droughts affecting the north of the country repeatedly leave the population at risk of food insecurity, while flooding damages infrastructure, public assets and private property. Senegal succeeded in reducing the prevalence of malaria over the last two decades, an experience it applied to limit outbreaks of Ebola and COVID-19.

Hydrometeorological hazard-related disasters

Like other countries in West Africa, Senegal is at risk of hydrometeorological hazards such as droughts and floods, many of which will be exacerbated by climate change. Across the country, temperatures are expected to increase by up to 3.1°C by the 2060s and up to 4.9 °C by the 2090s (World Bank, 2021d). Temperature rises will be spatially differentiated, with the interior warming faster than the coast, as will be the rate of increase in the number of hot days – faster in the south and east – and the decrease in cold nights. While it is unclear whether precipitation will increase or decrease across Senegal, more models predict an overall decrease in precipitation, with more precipitation during heavy rainfalls (World Bank, 2021d). Higher temperatures will negatively affect rain-fed agriculture, which provides livelihoods for over 60% of people in Senegal (World Bank, 2013).

Flooding affects up to 600,000 people annually, with significant impacts on lower-income populations and damage to infrastructure, public assets and private property (World Bank, 2013). Heavy rainfalls, poor drainage and salt-water intrusion are just some factors that leave the country vulnerable to flooding, while rapid urbanisation is increasing exposure. The capital city of Dakar

produces around 70% of the country's GDP and has US\$2 billion worth of assets exposed to floods (World Bank, 2013).

Senegal experiences droughts every three to four years, mainly in the arid and semi-arid Sahelian north (GFDRR, 2016). Droughts have affected over 3 million people since 1980, contributing to food insecurity by reducing crop production. For example, around 35% of national crop was lost during the 2002–2003 drought alone, at a cost of US\$50 million (World Bank, 2013).

Environmental hazard-related disasters

Senegal is vulnerable to coastal erosion and mangrove losses. Droughts, population growth and agricultural expansion are all contributing to environmental degradation in the country. Biodiversity and mangrove losses along with changing water temperatures impact fishing (ANACIM et al., 2015). Furthermore, with over 70% of households in low-lying areas, further sea-level rises of up to 1m will leave 110,000 people who are living in southern Senegal exposed to coastal erosion (GFDRR, 2016). Increasing frequency and intensity of storm surges and gale force winds will exacerbate the vulnerability of coastal cities like Saint-Louis to floods, coastal erosion and saltwater intrusion (GFDRR, 2020).

Biological hazard-related disasters

Senegal is at risk of crop pests, locust infestations and infectious diseases. Invasions of locusts and other insects, which could become more common as a result of future climate change impacts, affect agricultural yields: millet yields fell by 23% and sorghum yields by 14% following the 2004/2005 locust infestations (World Bank, 2013). Insect infestations and climate variability account for around a 10% loss of national crop value every year, and 44% in 1 in 100 years (World Bank, 2013).

Senegal is at risk of outbreaks of diarrhoea, respiratory infections, malaria and other vector-borne diseases. Neglected tropical communicable diseases such as lymphatic filariasis (commonly known as elephantiasis) and schistosomiasis are endemic (WHO, 2008). Over the past two decades, the country has successfully reduced the prevalence of malaria from 255.6 incidents per 1,000 population in 2000 to 57.5 in 2018 (WHO, 2020). Senegal applied this experience during the 2014 Ebola outbreak, which was limited to just one imported case, whose contacts were successfully traced and monitored (WHO, 2014). Initially, the country performed similarly well in containing the COVID-19 pandemic, particularly considering its limited capacity in the health sector, with around seven doctors per 100,000 people (WHO, 2018; Chakamba, 2020). However, cases have risen steadily since December 2020, and as of 25 August 2021 the country had 72,086 confirmed cases with 1,697 deaths (WHO, 2021). By 23 August 2021, 1,483,312 vaccine doses had been administered (WHO, 2021). Restrictions on movement and curfews led to protests in the capital of Dakar.

Societal hazard-related disasters

Senegal has a relatively stable political system with three peaceful transfers of power since the 1960s. Nevertheless, the country has experienced low-grade conflict in the southern Casamance region since the early 1980s (USAID, 2017). The conflict between the Government of Senegal and the Movement of Democratic Forces of Casamance (MDFC) led to internal displacement of 6,000 people in Ziguinchor, with another 10,000 refugees fleeing to neighbouring Gambia and Guinea Bissau (USAID, 2017). The agricultural potential of the Casamance region is underutilised due to landmines and displacement, among other factors. Despite peace talks and unilateral calls for a ceasefire by

one of the MDFC leaders, attacks continued throughout the 2010s (USAID, 2017). Spread of violent extremism and conflict from neighbouring Mali and other countries is a source of great concern, though Senegal itself is not considered at great threat of extremism (Seyferth, 2014).

Though Senegal is widely regarded as a stable country, mass protests in March 2021 saw thousands take to the streets in Dakar in protest against the opposition leader Ousmane Sonko's rape charges, together with anti-France sentiment (Chutel, 2021). Eight deaths were reported (Chutel, 2021). The protests also raised questions about the politicisation of violence against women in the country, given the low level of prosecutions against rape and gender-based violence (Chutel, 2021).

Priority 1: Understanding disaster risk

Progress and achievements

Significant progress has been achieved in improving knowledge on disaster risks. Understanding of hazard-specific risks is largely fostered by sector-specific institutions or projects. Data on food and nutrition security, for example, is collated and held by the Executive Secretariat of the National Council for Food Security (*Secrétariat Exécutif du Conseil National à la Sécurité Alimentaire, SE-CNSA*), which assesses nutritional risks in the country and supervises an early warning system (EWS). The data is collated through three sentinel surveys (on agriculture, food and nutrition) throughout the year, and a larger biennial National Survey on Food Security and Nutrition (Branders et al., 2018). Furthermore, during 2019/2020, Senegal was one of a number of Sahelian countries to establish a national risk profile which includes a vulnerability component based on household survey data from the government and WFP's Comprehensive Food Security and Vulnerability Analysis (ARC, 2019; UNDP email exchange, 2021).

Flood risks are under the administration of the National Committee for Flood Prevention, Supervision and Monitoring, which works closely with the National Agency for Civil Aviation and Meteorology (*Agence Nationale de l'Aviation Civile et de la Météorologie, ANACIM*). Observation stations have been built and mechanisms for continuous assessment are in place. Further investment is planned to expand the mapping of flood-prone areas with the commencement of the Integrated Flood Management Project (*Projet de gestion intégrée des inondations, PGISS*) in May 2021, supported by CFA 4 billion (approximately US\$7 million) from the French Development Agency (*Agence Française de Développement, AFD*) (APS, 2021). Infrastructural investments are also being made, with ANACIM being provided with a radar and the Directorate for Water Resources Management and Planning (*Direction de la Gestion et de la Planification des Ressources en Eau, DGPRE*) with EWS tools (APS, 2021).

To better monitor climate risks, the Ministry of Environment and Sustainable Development has strengthened its observation units (ANACIM et al., 2018). Further weather surveillance is provided by ANACIM, which issues forecasts used in agriculture, fishing, transport, livestock, habitat and more. Among other uses, these are employed to manage the agricultural calendar. Surveillance of hydraulic resources is conducted by the DGPRE, which has mapped the country's watersheds and flood-prone areas. It provides updates and alerts on floods to the public on a regular basis.

In collaboration with the National Agency of Statistics and Demography and other key players, since 2014 the General Delegation for Social Protection and National Solidarity has conducted questionnaire-based surveys. The survey data is registered in a centralised national database listing 580,000 vulnerable households that social safety net programmes should target.

The Ecological Monitoring Centre (*Centre de Suivi Écologique*, CSE), established in 1986 under the Ministry of Environment and Sustainable Development, remains active in the monitoring and evaluation of the environment, natural resources and sustainability issues. The CSE provides hazard data and decision-based information on floods, vegetation and bush fires, and has recently established a partnership with Digital Earth Africa to use Earth Observation (EO) satellite data to improve decision-making (CSE, 2019).

The National Coordination Centre for the Early Warning Response Mechanism (*Centre Opérationnel pour l'Alerte Précoce*, COAP) was established by Decree No. 2017-949 in May 2017 (République du Sénégal, 2017). The development of the COAP, along with the country-wide establishment of hazard-specific data collection and monitoring stations to support the EWS, serves to strengthen knowledge of disaster risks. In addition to implementing a national EWS and improving access and quality of information, the COAP is responsible for coordinating and supervising disaster response operations (Senior Expert Consultation, 2021). Moreover, improved EWS contribute to better anticipation of disaster response. The COAP will soon be hosted by the Operational Centre for Interministerial Crisis Management (*Centre Opérationnel de Gestion Interministériel des Crises*, COGIC) at the Ministry of the Interior. The COGIC (its buildings have been constructed) will include a unit on multi-hazard EWS and is intended to address the most prevalent hazards. Making the COGIC operational is currently a priority for Senegal's authorities (Senior Expert Consultation, 2021).

The country has also reinforced its institutional capacities for data collation and dissemination. In 2017, Senegal endorsed the Special Data Broadcast Standard to improve the collection and dissemination of public information on economic and financial indicators (IMF, 2017).

Most disaster risk reduction (DRR) technical experts and actors use the 2009 United Nations International Strategy for Disaster Reduction (UNISDR – now United Nations Office for Disaster Risk Reduction, UNDRR) terminology document that guided the initial stages of the Sendai Framework for Disaster Risk Reduction 2015–2030, with a commitment to use any updated iterations that are produced (UNISDR, 2009; Senior Expert Consultation, 2021). This 2009 guidance has now been replaced by a new iteration (ISC and UNDRR, 2020).

Training and research organisations such as the Ecological Monitoring Centre, the Senegalese Institute for Agricultural Research, and the Institute of Food Technology are undertaking work to raise risk awareness. Efforts have been made to integrate courses on DRR into school curricula. In addition, the Environmental Education and Training Centre (*Centre D'Education et de Formation Environnementale*, CEFÉ) at the Ministry of the Environment and Sustainable Development, established in 2000, offers environmental training on topics including climate change, biodiversity and desertification (Ministry of Environment and Sustainable Development interview, 2021; Senior Expert Consultation, 2021). In partnership with the Partners Enhancing Resilience for People Exposed to Risk (PeriPeri U) platform, training programmes have also been developed and are taught at Gaston Berger University. The creation of courses on DRR has also allowed administrative executives to receive specific training. For example, modules on civil protection and DRR, delivered by the Directorate of Civil Protection, were introduced into the training programme for Administrative Authorities at the National School of Administration several years ago.

DRR is being integrated into curricula in primary and secondary education, with initiatives launched in 2008 at primary level having gained momentum. In 2019, various key players (such as the Ministry

of National Education, the Ministry of the Interior and the Association of Senegalese Mayors) collaborated to introduce first aid and disaster risk management (DRM) to the teaching syllabus (Senior Expert Consultation, 2021). In higher education, a programme on food security is offered at Gaston Berger University in collaboration with the PeriPeri U platform (PeriPeri U, n.d.). While the idea that DRR should be addressed in education has been agreed in principle, greater efforts are needed to effectively implement this.

Finally in terms of risk communication, a network of women journalists has been established, aided by six partnership agreements between the United Nations Development Programme (UNDP) and *Réseau International des Femmes de l'Union des Radios Associatives et Communautaires* (RIF/URAC) (UNDP email exchange, 2021). The network aims to enhance dissemination of preventative measures to limit the spread of COVID-19, which has been supported by the training of 30 women on risk communications. Additionally, 50 community radio stations have also been enlisted to support more than 1,000 messages to be aired in five local languages (Wolof, Puular, Serer, Diola and Mandingo) (UNDP email exchange, 2021).

Observations and recommendations

Challenges and barriers

Despite many positive sector-specific and project-based advances in profiling and monitoring hazards, there are no nationally allocated financial resources dedicated to conducting systematic multi-hazard disaster risk assessments across the country (Senior Expert Consultation, 2021). This creates limitations: for example, implementation of various coastal embankment improvement projects was intended to provide comprehensive mapping of the country's flood zones, but according to experts this has not been achieved (Ministry of Environment and Sustainable Development interview, 2021).

While systems are in place to monitor the most prominent hazards, information is less readily available on the extent and distribution of exposure and vulnerability. Disaggregated data by intersectional sub-categories is also absent from many data sets.

A major difficulty in advancing understanding of multi-hazards and intersecting risks lies in the aggregation and provision of information into a single database, as Senegal does not have a centralised database on disaster risk. Data on disaster impacts and losses is also inconsistent, with the information most recently submitted to the DesInventar (a free, open-source disaster information management system) register in 2014. According to experts interviewed for this study, this is due to weak inter-institutional collaboration. Administrative constraints and procedures severely limit access to existing data. Part of the challenge in moving towards more interoperable systems is the lack of a harmonised framework for definitions and terminology on hazards; without any incentive to ensure alignment, each sector uses their own texts and concepts of choice (Senior Expert Consultation, 2021). Because national institutions largely do not publish data on their hazards of concern or their operations, information is difficult to access or compile. UNDRR has officially written to the Government of Senegal requesting that DesInventar be updated, but to date this has not been addressed.

Participants in the Senior Expert Consultations and interviews conducted for this study expressed concern over the lack of a central risk communication system, the fact that current routine risk communications are in French only, and that other aspects of the AU PoA – such as systematically

conducting post-disaster needs assessments (PDNAs) – are not standard activities. Regarding the latter, assessments are sometimes undertaken at the request of authorities following large-scale events, such as the 2020 floods (Ndiaye, 2021) but this is not routine practice.

Interviewees suggested that professional training on DRR could be enhanced by creating dedicated programmes on DRR, rather than scattering courses across different study tracks. Further, there are concerns around the sustainability and longevity of current courses, including those offered by the Gaston Berger University, due to funding shortages. In terms of integration of DRR into the formal education system, the AUC biennial report concludes that up to 2018 Senegal had ‘limited achievement’ in this regard; though no further details are provided at a country level (AUC, 2020).

At the local level, lack of commitment to implementing risk prevention policies is an issue, particularly by the local authorities; this is mainly attributed to a lack of understanding of the usefulness of such policies. Strategies to foster mass awareness often struggle to achieve the desired goals. Interviewees reported that strategies are often met with doubt, reluctance and suspicion. At the same time, initiatives are being led to encourage different actors, such as elected representatives, media figures and local populations, to become more conscious of disaster risks. Information campaigns on specific hazards are conducted by the Directorate for Civil Protection (DCP) and other institutions with a state-mandated role in DRR. To this end, a network of 125 community radios has been established that broadcast across the country.

Recommendations

(P1 N-1) Mobilise resources for profiling, monitoring and assessing disaster risks.

(P1 N-1) As Senegal hosts a range of foundational risk monitoring and assessment systems, support should be offered to pilot the design and roll-out of a centralised DRM system that collates information to create multi-hazard risk data and profiles by region. This would be best placed under the technical coordination of the DCP; however, it is a massive undertaking so intermediary steps are required. Beginning with high-risk areas where hazards intersect – such as flood risk, coastal erosion and COVID-19 – sub-national pilots could be conducted which seek to produce multi-hazard risk maps as well as foster collaboration between the agencies and line ministries responsible for each hazard. This could lay the foundations for generating a deeper understanding of cascading risks and could lead to follow-on processes of developing cross-sectoral multi-risk preparedness, risk reduction, response and recovery plans. Following three or four pilots in different geographies with different risk sub-sets, the lessons can be used to inform a national-level dialogue on the feasibility and appetite for the longer-term process of creating a central mechanism for compiling and assessing multiple risks. This, in turn, can help to guide robust, risk-informed decision-making. In parallel, the capacities of the COGIC need to be strengthened to facilitate inter-institutional collaboration to register information in any future platform.

(P1 N-2) Establish/strengthen technical structures for risk surveillance and assessment.

(P1 N-2) Further work is required to expand understanding and action on the need for disaggregated disaster risk data, in a range of intersectional categories, including gender, sex, age, disability, conflict-displaced and other vulnerable groups (Chaplin et al., 2019). This will be required across the DRM cycle, starting with a deeper understanding of the uneven societal distribution of vulnerability and exposure. UNDRR, UNDP, UN Women and other national and regional agencies could provide the line ministries and agencies involved in DRR with best-practice guidance on disaggregating data

sets from other countries. This would allow further discussion and agreement on the most appropriate sub-categories for the Senegalese context, which would ideally be convened through the DRR Platform. The group could aim to produce a seminal report on disaster vulnerability that not only provides a baseline for further studies, but that also includes a strong advocacy component targeting sectoral specialists to demonstrate the added value of disaggregating data by intersectional categories.

(P1 N-3) Harmonise risk and warning definitions and concepts.

(P1 N-3) The ISC, UNDRR and the Africa Science and Technology Group (AfSTAG) could convene a series of technical webinars to support all line ministries (detailed above) involved in hazard and risk monitoring. The aim would be to understand the latest (ISC and UNDRR, 2020) guidance on hazard definitions and classifications, which now informs the Sendai Framework for Disaster Risk Reduction 2015–2030 and the accompanying Sendai Framework Monitor. Inspirational talks by representatives of the Technical Working Group for the guidance could be integrated into the webinars, to generate interest in moving towards more harmonised definitions and classifications and to lay the foundations for future conversations about creating more interoperable hazard and DRM systems.

(P1 N-4) Establish/strengthen DRR databases.

(P1 N-4) As part of a regional exercise, the Economic Community of West African States (ECOWAS) Humanitarian Affairs and Disaster Management Division, in collaboration with UNDRR, could convene a series of dialogue exchanges with national statistics offices and national disaster management authorities and/or civil protection in each of the West African and Sahelian countries – including Senegal – that does not currently report on DesInventar and/or other global disaster loss and impacts databases. The dialogue could seek to gain a better understanding of the technical limitations of doing so, and the dis/incentive structures that prevent reporting. The regional findings should contribute to a global assessment of existing disaster databases, their strengths and weaknesses, including, for example, the INFORM Risk Management Index and Emergency Events Database, to provide concrete guidance to countries on how to improve reporting and the rationale and incentives for doing so.

(P1 N-6) Operationalise post-disaster damage, loss and impact assessments.

(P1 N-6) A standardised process for conducting post-disaster assessments of damages and losses would be worth prioritising, drawing on the expertise of those who recently attended the UNDP training on PDNAs and disaster recovery frameworks. There is no shortage of pre-prepared material on this, including a review of 10 years of experience in PDNAs (Jeggle and Boggero, 2018) – although Senegal does not feature in this global review. The demonstrated benefits of systematic and multi-stakeholder PDNAs should be shared, emphasising their value: as a starting point for stimulating commonly agreed recommendations; for informing resilient recovery processes; and as a convening power to enable the exchange of data and lessons (Jeggle and Boggero, 2018). Senegal can actively seek to address the lessons identified from recent evaluations of PDNA processes, specifically by: seeking to ensure inclusion of marginalised groups; acknowledging accountability to affected people; and engaging the private sector (Jeggle and Boggero, 2018).

(P1 N-6) Given the relative lack of experience or practice of PDNAs across the Western Africa and Sahelian region, the UNDP regional team should consider a longer-term process of engagement on

the topic of post-disaster recovery tools and processes, as part of its Sub-Saharan Africa Disaster Resilience Building Programme implemented by the African Union Commission (AUC), UNDRR, the World Bank, the Global Facility on Disaster Reduction and Recovery (GFDRR) and ClimDev-Africa (UNDRR, 2021), in conjunction with other national, regional and continental partners.

(P1 N-7) Integrate DRR in education and training.

(P1 N-7) A short scoping study is required to map the availability of DRR training and educational courses across Senegal. This could be conducted through a dedicated master's dissertation by students at the Gaston Berger University in collaboration with PeriPeri U. The findings should be assessed in relation to the disaster risk profile of the country to identify gaps in training on hazards and threats and geographical coverage, and across the different phases of the DRM cycle. A funding proposal could be submitted to donors such as the United States Agency for International Development (USAID), to expand the existing PeriPeri U collaboration in Senegal and offer an applied academic programme on DRR at the tertiary level.

(P1 N-7) Building on the recommendation above, the Ministry of Environment and Sustainable Development, AfSTAG and PeriPeri U could collaborate to identify and pursue funding opportunities to both bolster the range of DRR-related training and educational courses available and to secure financial stability for those currently established, such as those at the Gaston Berger University. If successful in securing additional finance, the DRR capacity-building programme at the university, the CEFÉ training and the modules provided by the Directorate of Civil Protection could expand the range of hazards and threats currently covered by their curricula. Specific topics should be guided by the findings from recommendation P1 N-7 and could seek to ensure that Senegalese DRR expertise encompasses the expanded range of threats and hazards covered by the Sendai Framework for Disaster Risk Reduction 2015–2030. As requested by many expert consultations in this study, the courses should also be actively offered to sub-national municipal authorities to develop a broader cadre of expertise beyond the central line ministries and agency head offices.

(P1 N-9) Mobilise awareness-raising and advocacy initiatives.

(P1 N-9) Ambitions to establish a communication network in 2008 for disaster risk have not yet materialised. Experts have been critical of the fact that awareness campaigns are in French only and thereby fail to communicate in other national languages such as Diola, Mandingo, Pulaar, Serere, Soninké and Wolof (Senior Expert Consultation, 2021). Authorities, namely the Directorate of Civil Protection and the COGIC, may want to prioritise responding to calls from climate and disaster risk experts to convene a multi-stakeholder process to craft a national framework for risk communication and awareness-raising (DRR consultant interview, 2021; Senior Expert Consultation, 2021). The framework could include a set of principles for best practice that incorporate the need to strengthen and extend outreach by language, by utilising the existing community radio networks that broadcast in all the dominant languages. There is no shortage of academic and operational guidance and templates that can be adapted for this exercise. However, to effectively manage this outreach, funds will be required for a convening agency to chaperone the process. Funds could viably be sought by including this activity within an upcoming project proposal to the international climate funds. Non-climate-related hazards may need to be added later, but this would provide a useful starting point from which to develop and update a national framework for risk

communication. Funds could also be found in post-COVID-19 financial recovery packages, using the entry point of biological hazards, onto which other hazards can be added.

Priority 2: Strengthening disaster risk governance to manage disaster risk

Progress and achievements

At the time of the 2015 baseline, Senegal had several national economic and social development strategies, which included, in various forms, the need for action to achieve the effective management and reduction of disaster risks. For example, the 2006–2011 2nd Poverty Reduction Strategy Document (République du Sénégal, 2006) included social protection (under Priority Axis 3), as well as the prevention and management of disaster risks. In the subsequent 2011–2015 Economic and Social Policy (République du Sénégal, 2011a), DRR was again included under Axis 2. Similarly, the National Economic and Social Development Strategy (République du Sénégal, 2012) includes objectives to prevent and reduce major disaster risks and improve DRM overall. In addition, although there was no dedicated DRR strategy, there was a five-year national programme on risk reduction and management initiated in 2011 (Sané, 2015).

Looking ahead, the Senegal Emerging Plan 2014–2035 (République du Sénégal, 2014) includes the risks posed by climate change and natural hazard-related disasters on lives and livelihoods. The objectives for the plan include the need to act on the prevention and reduction of major disaster risks and to improve DRM.

Several institutions include a mandate on DRR in Senegal, and generally either perform a coordination or an operational function. Regarding the former, the DCP (established under Decree No. 64-563 of 30 July 1964 – République du Sénégal, 1964) is the main entity under the Ministry of Interior. Others include the National Unit for the Prevention and Control of Floods (*Cellule Nationale de Prévention et de Lutte Contre les Inondations*, CNPLCI) established in 2003 (République du Sénégal, 2003) – and responsible for the monitoring and implementation of flood prevention measures – and the National Platform for the Prevention and Reduction of Major Disaster Risks established in 2008 (République du Sénégal, 2008a).

A range of institutions at the sectoral level manage specific hazards. For floods, for example, this includes the Ministry of Flood Zone Restructuring and Planning (*Ministère de la Restructuration et de l'Aménagement des Zones d'Inondations*, MRAZI), which was created in 2012 and is now the Flood Area Planning and Restructuring Directorate (Ministry of Environment and Sustainable Development interview, 2021), and the National Committee for the Prevention, Supervision and Monitoring of Flood Control, which was established in 2007 under the authority of the Prime Minister. In food and nutrition security, governance arrangements include the SE-CNSA and the National Council for Food Security (*Conseil National à la Sécurité Alimentaire*, CNSA). Other agencies involved in managing specific hazards include the General Delegation for Social Protection and National Solidarity and the Classified Installations Divisions under the Department of the Environment and Classified Establishments (*Direction de l'Environnement et des Etablissements Classés*, DEEC), which oversees the management of industrial and technological risks (DEEC, 2016).

Maritime safety and security and protection of the marine environment falls under the remit of the High Authority Responsible for the Coordination of Marine Safety, Maritime Safety and Protection of the Marine Environment (*Haute Autorité chargée de la Coordination de la Sécurité Maritime, de la Sûreté maritime et de la Protection de l'Environnement Marin*, HASSMAR) (HASSMAR, 2016).

ANACIM, created in 2011 by Decree No. 2011-1055, is responsible for meteorology and civil aviation (République du Sénégal, 2011b; ANACIM et al., 2015).

The National Fire Brigade was created in 1982 (by Decree No. 82-196) and upgraded in 2012 from the National Group of Firefighters to the National Fire Brigade (Seck, 2013). This upgrade included programmes and projects aimed at enhancing operational capacity (Seck, 2013), for example: on organisation (creation of nuclear, radiological and chemical units); equipment and logistics (upgrade at equipment and territory network); and human resources (recruitment of personnel) (DCP interview, 2021; Senior Expert Consultation, 2021).

In theory, the DCP acts as the primary coordination mechanism for the various agencies and ministries involved in DRR; however, this has been challenging due to a lack of personnel, technical capacity and funding. To address this limitation, a Decree was issued on 8 January 2021 to reorganise the operation and mission of the DCP (Senior Expert Consultation, 2021). This text includes provisions on the autonomous management of the Directorate General for Civil Protection (DGCP), the reinstatement of the DGCP as the central coordinating agency and the formal identification of DRR as a key mission of the DGCP. The latter shift saw DRR be more explicitly incorporated into the DCP remit, with a greater focus on not only response but also prevention, preparedness and recovery (Senior Expert Consultation, 2021). It is highly anticipated that the issuing of this Decree provides clarity on the role of the DCP as the central coordinating entity for DRM and DRR, and the complementary role played by related sectoral ministries.

The establishment of the COGIC and the ambition to set up three regional centres have been highly anticipated. The DCP was given the mandate to operationalise the COGIC by the Council of Ministers on 8 April 2020, with a broad remit including a marked shift from DRM to DRR and with this the identification, prevention and management of risks, the establishment of EWS and rapid disaster response mechanisms, and the broader ambition to support disaster resilience including through community recovery intervention (Koulibaly, 2020). The Sahel Resilience Project, led by UNDP, supported the establishment of regional crisis management centres in the north (Saint Louis), centre (Kaolack) and south (Kédougou) of the country, with the aim of developing decentralised EWS in due course (UNDP email exchange, 2021). Needs assessments were also conducted to inform the development of centres, in addition to making a general inventory of existing EWS in Senegal. Links to other UN agencies such as the FAO were also established to bolster existing EWS by adding further components (UNDP email exchange, 2021).

In the ongoing absence of the coordination mechanisms described above, various sectoral departments have established collaborations where this is required by their remit and agenda. This includes, for example, a consultation framework between the Ministry of Environment and Sustainable Development, the Ministry of Planning and the Ministry of Finance to collaborate on flood issues (Senior Expert Consultation, 2021). Furthermore, sectoral platforms for risk management exist, such as the platform for agricultural risk management, the National Fisheries and Climate Change Platform.

Regarding the regulation and enforcement of standards, codes and practices on DRR, there are several mechanisms to ensure safety and encourage a culture of risk prevention. This includes, for example, the DCP conducting safety studies on construction and renovation projects for public buildings, which are a prerequisite for issuing building permits (Dia and Rambinintsotra, 2008). In

2002, a charter signed between the Minister of the Interior and the President of the Senegalese Employers Federation prompted the establishment of a Steering Committee to oversee workplace risk prevention and accident management (Sané, 2015). Other examples include the Ministry of Environment and Sustainable Development's Environmental Impact Studies Division (DEIE) conducting environmental impact studies prior to the implementation of projects and monitoring environmental management plans, and the DEEC managing the prevention and control of pollution including through impact assessments (DEEC, 2016).

Finally, the Ministry of Environment and Sustainable Development (interview, 2021) note that they are continuing to develop national mechanisms to protect ecosystems critical to DRR. To date, most progress has been in the form of project-based interventions around forest restoration, ecosystem services and climate change adaptation (Djigo, 2013; Sané, 2013; Seck, 2013).

Observations and recommendations

Challenges and barriers

Although DRM and risk reduction are included in various social and economic strategies and related strategic texts, they do not sufficiently describe, institutionalise or provide budgetary allocation to implement the mechanisms required to develop strong disaster risk governance arrangements in the country or fund operational activities. The lack of awareness of any tools for policy-makers to translate risk reduction and management principles into sectoral work further inhibits integration of DRR into sectoral policies, plans and budgets. There was also low awareness among interviewees of whether any outreach activities have been conducted to enable line ministries to understand Senegal's commitments to the Sendai Framework for Disaster Risk Reduction 2015–2030.

To date, there remains no national DRR strategy (AUC, 2020); although a strategy is planned with support from CADRI – through an initial assessment – and UNDP in terms of strategy development (UNDP email exchange, 2021).

While the governance of risk management institutions is within the mandate of the DCP, the current institutional weaknesses do not allow it to fulfil this role. In addition, interviewees expressed a common view that the plurality of stakeholders involved in different aspects of DRM sometimes produces overlapping responsibilities and duplication of efforts – although specific examples of such duplication were not forthcoming. Experts spoke of this being an impediment to effective coordination and coherence of interventions, often resulting in confusion and conflicts over mandates and institutional responsibilities. Some DRR stakeholders believe that the position of the DCP under the Ministry of Interior, which is largely concerned with handling public safety and elections, has led to decisions being taken by other entities that are not directly mandated to oversee DRM (Seck, 2013). It is hoped that the 2021 Decree and the establishment of the COGIC will help to overcome these challenges.

There is no functional DRR platform in Senegal. Although the 2008 Decree stated the establishment of a National Platform for the Prevention and Reduction of Major Disaster Risks (République du Sénégal, 2008a) – and there remains a precedent for such a platform under various descriptions of the remit of the Ministry of Interior as the main focal point for DRR – there is contradictory evidence on whether a platform was ever fully established and, if this happened, why it failed to become fully functioning. It was reported that a DRR platform was created with assistance from UNDP as part of a national programme to enhance risk reduction and management (Ministry of Environment and

Sustainable Development interview, 2021), with the aim of meeting once per quarter and convening all government, United Nations (UN) agencies, non-governmental organisations (NGOs) and academics, as well as private sector and community representatives. However, there is little evidence that this platform has convened since 2015. The lack of a formalised DRR platform has been cited as one of the reasons why links between climate and DRR coordination have not been established, particularly between the Ministry of Environment and Sustainable Development and the DCP (DRR consultant interview, 2021; Ministry of Environment and Sustainable Development interview, 2021). It could also be a reason why positive progress on DRM/DRR by line ministries is often not capitalised upon, and lessons learnt are not shared beyond individual sectoral experts.

Operational entities such as the National Fire Brigade have traditionally struggled to secure national coverage. In 2013, 2 regions and 22 departments did not have functional fire stations (Seck, 2013) and, despite previous and ongoing efforts to build capacity, data has not been made available on the current geographical coverage (Ministry of Environment and Sustainable Development interview, 2021).

Recommendations

(P2 N-1) Formulate gender-responsive DRR policies and plans.

(P2 N-1) The DCP, under its new and expanded remit, may find it valuable to prioritise the development of a plan for a Senegalese national DRR strategy, and in doing so achieve the Sendai Framework Target E (to have local and national DRR strategies in place by 2020) – despite the deadline having passed. Technical support is already planned as part of a collaboration between CADRI and UNDP, while UNDRR could provide examples of best practice for the process of developing such a strategy – with strong emphasis on the importance of facilitating an inclusive multi-stakeholder process, templates for the content of a strategy, and ideas on simplified monitoring mechanisms to track progress towards its implementation.

(P2 N-2) Operationalise institutional frameworks.

(P2 N-2) The 2021 Decree to strengthen the COGIC and provide physical infrastructure to enable the operational centre to become functional requires sustained support from financial and technical partners. This is already happening to some extent through UNDP, which has supported the development of standard operating procedures (SOPs) on crisis preparedness for the disaster management centres. The COGIC should commit to adopting the SOPs as a guiding document for regular operations to ensure quality and consistency in delivery. As the COGIC develops, it will become important to commit to pursuing the integration of risk management into national planning processes to ensure that all regions can benefit from the same level of preparedness and response capacity as the central coordination bodies.

(P1 N-2) Related to the above, partnerships with donors could be established to provide backstop support for any emergent challenges as the COGIC gets underway, and in time to create replica structures across the country at different scales. Partnerships may entail additional technical support and training, supplies of equipment, facilitating secondments from similar entities from across the continent, and supporting the development and roll-out of sustainability and funding plans to ensure that the COGIC has robust foundations for the future. Also important, but often unfinanced, are career development programmes, which can help build leadership capabilities for senior officials within the DCP and COGIC. This could be included in the flexible partnership arrangement, with

specific attention on ensuring that the strong management and coordination skills required for the effective running of the DCP and COGIC are attained by those in senior positions.

(P2 N-3) Create/reinforce multi-stakeholder DRR platforms.

(P2 N-3) Conducting an institutional review would be extremely helpful to better understand the current status and mandate of the national DRR platform and where a reinvigorated platform is best housed, institutionally. The review could consider the mandate and authority required by the platform in order to effectively carry out intersectoral coordination at the national level, and what would be required in terms of resources (human, financial and technical) to enable this to happen successfully. The review should also consider the expanded remit of the DCP and establishment of the COGIC, and the existing sectoral collaborations that have developed organically in the absence of an active platform. This exercise should determine what aspects of DRR coordination are currently mandated by existing entities, and what aspects require a DRR platform to be re-established. Consultation with all key DRR stakeholders (described above) will be required, with specific questions asked to determine the incentive structures required to ensure each line ministry/agency nominates a representative. It needs to be clearly communicated if the COGIC is to play this role; but also it is likely that, given its focus on response, COGIC's remit will need to be expanded to cover all aspects of preparedness, risk reduction and recovery. Regional partners such as UNDRR, together with the ECOWAS Humanitarian Affairs and Disaster Management Division, could provide templates for the organising structure, terms of reference (ToR) and governance arrangements of a DRR platform, based on best practice from other countries. UNDRR or other experienced UN agencies could also consider providing technical support in the first six months of the DRR Platform to ensure smooth initial running, and thereby encourage membership and attendance.

(P2 N-4) Formulate/reinforce the legal and regulatory environment for DRR.

(P2 N-4) To strengthen the consideration and regulation of risk-informed decision-making, ministries that currently conduct impact assessments – on the environment, agriculture and livestock, on construction standards and land use, and on pollution – could be convened to review and strengthen inclusion of DRM/DRR into their assessments. Specifically, drawing on their routine practices, DEIE and DEEC could be supported to assess the strength and inclusion of aspects of preparedness, risk reduction, response and recovery within the impact assessments, so that recommendations can be made to enhance each aspect of the risk management cycle as part of their routine work. In time, it may also be useful to expand the integration of DRR into impact assessments by other ministries. Additionally, the DCP could devise a form of risk-informed development impact assessment that it could offer as a service to different sectors to assess the likely impact of investment choices on disaster exposure and vulnerability. The African Development Bank (AfDB), GFDRR and the World Bank would be well placed to support such a process, given their existing risk-assessment templates, tools and methodologies, which could be simplified and adapted to suit the Senegalese context and technical capabilities of the DCP.

(P2 N-6) Align climate and DRR coordination mechanisms.

(P2 N-6) While the re-establishment of a DRR Platform (see recommendation P2 N-3) could provide a useful space in which to bring together and strengthen relations between those responsible for climate change and disaster risk – the DCP and Ministry of Environment and Sustainable Development – it is recommended that bilateral relations are also established. UNDP is well placed

to help facilitate this process, given its experience across the continent and globally in convening climate and disaster collaborations, in assessing the relationship between climate change adaptation plans and national DRR strategies (see UNDRR, 2019), and in understanding the points of complementarity between climate finance and disaster funds and investments. To support the process, experiences of well-connected climate and disaster departments/ministries from other Sahelian and African countries should be showcased – ideally with first-hand stories from the governments involved and concrete examples of the thematic overlaps between action on climate and disaster risk by prominent African experts engaged in the AfSTAG. If bilateral relations are positive, a framework could be drafted, informed by the existing consultation framework between the Ministry of Environment and Sustainable Development, the Ministry of Planning and the Ministry of Finance for flood issues (Senior Expert Consultation, 2021), but focused on DCP and climate change within the Ministry of Environment and Sustainable Development.

(P2 N-7) Facilitate the implementation of the Sendai Framework through practical tools.

(P2 N-7) Given that there is substantial maturity in Senegal’s risk governance under the remit of different sectors and line ministries, it is highly likely that actions contributing to the national-level progress on the Sendai Framework for Disaster Risk Reduction 2015–2030 and the AU PoA are not being adequately captured. This has been hindered by the narrow remit of the DCP and the lack of a functioning DRR Platform – both of which will hopefully be overcome in the coming years.

To enhance awareness and understanding of the national commitments to DRR, a targeted outreach campaign is required, covering the Sendai Framework, the AU PoA and the importance of all line ministry contributions to achieving improved disaster resilience. A short set of presentations could be commissioned in collaboration with the DCP, with backstop support provided by UN agencies with DRR expertise. The importance of communicating the upcoming Sendai Framework Monitor process should be emphasised, with incentives provided – in terms of increased visibility for line ministry interventions and impact – to encourage contributions via the self-reporting mechanism. This report could also demonstrate how line ministries’ activities can be tagged as contributing towards different Priority Activities under the AU PoA, and where further action is required.

Priority 3: Investing in DRR for resilience

Progress and achievements

The state allocates funding for programmes and each ministry or department is then responsible for one or more programme budgets. If DRR is to be funded centrally, each line ministry must therefore include these activities in its budget. As the DCP is not heavily engaged in this process, it is difficult to accurately estimate the amount allocated to DRR through programme budgets. If required during the budgetary year, an amended finance act can adjust budgetary allocations, including, for example, to DRR and response.

The inclusion of aspects of climate, environmental, industrial and disaster risk within the Emerging Senegal Plan (République du Sénégal, 2014) – the country’s socioeconomic policy framework – helps to steer finances to activities under these themes, most recently in February 2020 under Finance Act 2020 by Ordinance 07-2020 of 17 June 2020 (CADRI interview, 2021; Ministry of Environment and Sustainable Development interview, 2021). The full list of programmes contained in Decree No. 2020-1021 of 6 May 2020 (République du Sénégal, 2020) includes elements of programmes for DRM, including a fire-fighting fund, flood control (linked to a 10-Year Plan (Ministry of Environment and

Sustainable Development interview, 2021)). There is also a programme to combat the effects of climate change, implemented by the Ministry of Environment and Sustainable Development.

The Ministry of the Environment and Sustainable Development has also funded DRR activities in the context of broader national commitments to global conventions (see Priority 2) on biodiversity, desertification and climate (Ministry of Environment and Sustainability Development interview, 2021). This report does not detail the range of environment- or climate-related projects across the country. Just one example of investments in recent years is substantial funding to support the Great Green Wall initiative, including for the period 2016–2018, including: state allocation of €7,179,000 to the National Agency of the Great Green Wall of Senegal; World Bank funding of US\$3 million under the Program for the Inclusive and Sustainable Development of Agribusiness in Senegal (PDIDAS); €916,000 from the European Union (EU) through the Local Environmental Front for a Green Union (FLEUVE); and €1,553,000 (over four years) from the FAO via Action Against Desertification (Gilbert, 2019).

Other relevant budgetary allocations include funds for flood prevention and control from MRAZI, and there are reports of a Forest Fund and National Environment Fund also (Lo, 2013). There is a steadily increasing state budget for food security, under the National Food Security and Resilience Strategy (SNSAR 2015–2035) (République du Sénégal, 2015).

More recently, to deal with the threat of biological hazards including COVID-19, an amendment to the Finance Act 2020 by Ordinance 07-2020 of 17 June 2020 (CADRI interview, 2021) established a Programme of Economic and Social Resilience (PRES), with more than CFA 1,000 billion (7% of GDP) allocated across a range of pillars including support for the health sector, resilience and social cohesion, and safeguarding macroeconomic and financial stability. The PRES has benefited from €112 million from the EU and €100 million from German's global emergency programme for COVID-19 (EC, 2020).

There are also funding mechanisms specifically for civil protection, such as the Inter-Ministerial Order No. 9605 of 14 October 1993, which aims to: (1) help victims of natural or technological disasters; (2) support the operational bodies of the National Emergency Response Plan (*Plan national d'Organisation des Secours*, ORSEC); (3) fund the 'test' training exercises of ORSEC plans; (4) fund information and awareness campaigns for populations in 'high-risk' areas; and (5) fund first aid and transport equipment (Seck, 2013).

In the event of a disaster, there are newly established funding mechanisms available, including a Disaster Fund created in 2020 under the Ministry of Finance, which is intended to be a permanent feature of the national budget (Senior Expert Consultation, 2021).

In terms of risk-sharing and risk transfer, Senegal has engaged in social protection programmes for over a decade, with substantial expenditure on shock-responsive programmes and replenishment of food security stock (Branders et al., 2018). The General Delegation for Social Protection and National Solidarity oversees social protection and humanitarian assistance to disaster victims. In addition, social safety nets established at the sub-national level under the leadership of the National Agricultural Insurance Company of Senegal (*Compagnie Nationale d'Assurance Agricole du Sénégal*, CNAAS) cover agricultural areas across Senegal (CNAAS interview, 2021). Senegal's National Social Protection Strategy (SNPS) 2015–2035 (République du Sénégal, 2016) incorporates cross-cutting interventions aimed at: (1) strengthening the physical protection of populations and economic

facilities against risks and disasters; and (2) improving governance, for more effective risk and disaster prevention and management actions. This strategy makes a clear link between disasters and poverty as a factor of vulnerability and food insecurity.

Other sources of funding in the form of aid (in-cash, in-kind, in-materials, etc.) originate from technical and financial partners, including UN agencies (UNDP, United Nations Office for the Coordination of Humanitarian Affairs (UN OCHA), World Food Programme (WFP), FAO, United Nations Children's Fund (UNICEF), World Health Organization (WHO), United Nations High Commissioner for Refugees (UNHCR), etc.), the International Federation of the Red Cross (IFRC) and Senegalese Red Cross, World Bank and the International Civil Defence Organisation, as well as bilateral arrangements, local communities, the private sector and citizens.

Since 2014, Senegal has subscribed to the insurance provided by the African Risk Capacity (ARC). In return for the annual premium, the country benefits from a support financing mechanism to respond to acute crises. The ARC, a mutual insurance scheme against the risk of drought, is based on an index and an early response system. The compensation distributed through the fund can be used to deal with emergencies and immediate recovery. In 2014, the country received US\$16.5 million from the ARC to support the 927,416 people affected by food insecurity (République du Sénégal and ARC, 2015). This allowed the government to purchase 14,839 tonnes of livestock feed that was then sold to pastoralist farmers at subsidised prices (République du Sénégal and ARC, 2015). In 2015, the ARC insurance system enabled Senegal to fund the Operation Livestock Safeguarding Project to the level of CFA 3.2 billion (DRR consultant interview, 2021).

Senegal has also benefited from a new risk transfer mechanism. In 2019, the Government of Senegal and Start Network purchased drought insurance through ARC Replica (Grant, 2020). When pre-defined thresholds were surpassed in November 2019, pay-outs of \$12.5 million to the government and U\$10.6 million to the Start Network were disbursed – the largest funding for humanitarian action ever provided to civil society (Grant, 2020). In partnership with six NGOs, the Start Network and the government disbursed cash and food items to 335,000 people across seven regions (Start Network, 2021). An internal evaluation of the ARC Replica in Senegal details positive household-level results, including a reduction in negative coping strategies, continued access to food and improved quality and quantity of food, among others (Start Network, 2020).

Although not covered in any detail here, it should be noted that the CSE has become a nationally accredited entity for the Green Climate Fund (GCF) and Adaptation Fund, aiding the flow of investments in climate change adaptation and DRR into Senegal (Toure, 2017). More specifically, the Adaptation Fund's direct access modality allows Senegal to access funds through CSE with greater ownership over implementation. Initial funding has supported adaptation to coastal erosion in vulnerable areas in Rufisque, Saly and Joal (Toure, 2017).

Microfinance in agriculture is considered at an advanced stage, with private insurance prevalent in areas where irrigated agriculture is used. More recently, pilots have linked savings cooperatives of women farmers to health insurance schemes as part of efforts by the Senegal Agency for Universal Health Coverage (WHO, 2019).

Observations and recommendations

Challenges and barriers

Despite a plethora of state-allocated and externally financed activities on DRR and related themes such as climate change, environmental protection and food security, there is no central tracking system for expenditures on disaster-related activities. It is therefore unclear exactly how much funding is being channelled to address different hazards, their geographical distribution and their outcomes for different sub-sets of society. This relates, in part, to the broader challenge of tagging and tracking disaster-related expenditures, but also to the lack of a central or harmonised DRR investment plan. Since the 2015 baseline, new and substantial investments under different international frameworks – such as those on climate change, biodiversity and sustainable development – have incentivised different funding flows. However, these investments have also added complexity, as funds are channelled through a wide range of line ministries and departments. Furthermore, there do not appear to be any sectoral guidelines for the integration of DRR into sectoral policies, plans or budgets (Senior Expert Consultation, 2021).

The complexity of the procedures for the disbursement of public funds to finance emergency response operations is often exacerbated by bureaucratic inertia (Senior Expert Consultation, 2021). This undermines the effectiveness of interventions on the ground, with advisory committees required to approve any changes to funding allocations, and delays often occurring throughout the process.

Recommendations

(P3 N-1) Design/operationalise national DRR investment plans.

(P3 N-1) An expenditure review could be undertaken to develop a true picture of the current fund allocation to DRR- and disaster resilience-related activities from central state and external sources. Existing tools and methodologies such as DRR and climate change adaptation Public Expenditure and Institutional Reviews (PIERs) could be applied, together with new ideas on how to tag and track disaster-related expenditure gleaned from researchers convened as part of the new Inter-Agency and Expert Group (IAEG) on Disaster-Related Statistics (UN ECOSOC, 2021). As a collaboration between the Ministry of Interior and Ministry of Environment and Sustainable Development, Senegal could act as a pilot case for applying new statistical classifications of disaster-related expenditures to the IAEG, in an attempt to better understand current funding flows to DRR/DRM across different line ministries. The findings of the study could then be used to inform future funding allocation within state programmes and help guide investments and external funding from international partners. Depending on the findings, it may then be appropriate for key national DRR stakeholders to call for improved and increased funding allocation to enhance risk-informed development across a broader set of sectoral departments and ministries. This may also lead to better tracking of disaster-related expenditure, should Senegal continue to work in collaboration with the IAEG to test and implement new methods to classify expenditures.

(P3 N-2) Develop/strengthen national disaster risk financing mechanisms.

(P3 N-2) To build on the success of the ARC Replica experiences in the 2019 drought, the recommendations from the Start Network (2020) Internal Evaluation should be actioned. The Government of Senegal, in collaboration with anticipation financing experts, could work with the Ministry of Interior and related line ministries to devise a plan of action to: (1) improve data on

seasonal livelihood activities to ensure disaster risk financing systems are timely, rather than ‘early’ per se; (2) build on the contingency planning and pre-agreed financing arrangements by extending other forms of collaboration and coordination, namely accountable and inclusive participation of local responders and at-risk communities; (3) continue work to expand the range of flexible contingency finance available to complement insurance-based approaches; and (4) devise methods to gather data on the impact of macro-level risk finance schemes at the local level through, for example, routine data collection involving control groups. Funding to devise a plan of action and to implement steps to address the Internal Evaluation recommendations should be sought from donors, such as the German Federal Ministry for Economic Cooperation and Development, given their initial funding of the ARC Replica in Senegal.

(P3 N-2) While further details are eagerly awaited on the newly established Disaster Fund, disaster risk financing experts should consider engaging with the Ministry of Finance in the fund’s set-up, prioritisation and delivery, with a view to encouraging principles and practices of early action based on the range of tools and mechanisms currently available, including forecast-based finance, anticipatory action and early warning (Wilkinson et al., 2020). Under UNDP’s current membership of the Risk-informed Early Action Partnership (REAP), advocacy could be undertaken to gauge the level of interest from the government in joining the partnership, and/or simply utilising the lessons, evidence and experience of the partnership to encourage more proactive design of the Disaster Fund in ways that are focused on ex-ante action.

(P3 N-2) In collaboration with national DRR partners, and as part of UN OCHA’s role in disaster response and UNDP’s interest in disaster recovery, the two agencies could fund a short, quick-turnaround assessment of the current response funding mechanisms available through the state budget, to better understand the limitations described by DRR experts in this research. The findings should aim to produce a set of actionable recommendations on how to amend current procedures to be more responsive to disaster situations. This should be accompanied by a timeline for routine monitoring to track progress on the changes required and the impact of the changes implemented to inform any further adjustment needed to the political and bureaucratic processes of post-disaster fund disbursement.

(P3 N-3) Operationalise guidelines for mainstreaming DRR across sectors.

(P3 N-3) Given Senegal’s commitments to international frameworks – including Agenda 2030, the Paris Agreement on climate change, the UN Convention to Combat Desertification and the Sendai Framework for Disaster Risk Reduction 2015–2030 – there are plenty of existing policy commitments from which line ministries should be encouraged to leverage their current and future sector plans. Furthermore, there is no shortage of existing sector-specific guidance notes and tools that make the case for integration of DRR and risk-informed development into sectoral plans, as hosted on PreventionWeb, by the World Bank, UNDRR, UNDP and others. The guidance should be shared, and technical mentoring provided to representatives from each of the line ministries to understand how and why integration of disaster risk considerations is necessary and relevant to their own ministry’s plans and goals. If receptive, a sustained, long-term programme of support should be devised to integrate DRR into future budgeting and planning processes.

(P3 N-4) Develop/implement development policies, plans and programmes.

(P3 N-4) Key line ministries and departments involved in climate and disaster action – such as the Ministry of Interior, DCP, Ministry of Environment and Sustainable Development, ANACIM and MRAZI – could collaborate to undertake a targeted internal advocacy campaign aimed at the Ministry of Finance to encourage agreement on a set of principles on risk-informed decision-making. This should encourage all line ministries to include aspects of DRR into their programme budgets. In parallel, the ECOWAS Humanitarian Affairs and Disaster Management Division, in collaboration with UNDRR and GFDRR, should reach out to regional and continental ministries of finance that have made progress in allocating state budget and mainstreaming DRR across line ministry budgets, to share their examples and act as peer-to-peer encouragement. To maintain the incentive to act, a formal invitation could be extended to the Ministry of Finance to attend the Africa Regional Platform and Ministerial Conference on Disaster Risk Reduction, as well as the Global Platform for Disaster Risk Reduction 2022, as part of the Senegalese delegation.

(P3 N-4) As part of a broader regional initiative, UNDP, in collaboration with ECOWAS and the AU, should commission a review of the existing literature on the opportunities and value of integrating ideas of systemic and cascading risks (see UNDRR, 2019) into post-COVID-19 response and recovery plans and investments. The World Bank (Hallegatte and Hammer, 2020) and the Organisation for Economic Cooperation and Development (OECD, 2020), among others, are exploring options for ‘building back better’ to create more sustainable and resilient economic recovery following the pandemic. A short set of guiding principles could be developed into a briefing paper to encourage lesson learning from previous disaster response and recovery experiences, to promote goals of environmental sustainability and utilising COVID-19 recovery as a green stimulus, and to encourage a shift to enhancing biodiversity in conjunction with low-carbon pathways (Hallegatte and Hammer, 2020; OECD, 2020). This could then be tailored by national DRR stakeholders to reflect the political economy of the Senegalese context.

Priority 4: Enhancing disaster preparedness for effective response and to ‘build back better’ in recovery, rehabilitation and reconstruction

Progress and achievements

EWS exist within Senegal, tailored to different hazards and threats, and each managed by their respective line ministry or department (such as those for maritime risks, health and food security). Despite previous failed attempts to establish a functioning multi-hazard EWS, efforts to assess the feasibility of establishing such a system continue (Senior Expert Consultation, 2021). In 2020, a feasibility study for a multi-risk EWS was conducted in partnership with the DCP and UNDP, to assess whether it would be possible for the COGIC to house a national multi-risk EWS – the findings of the study are eagerly awaited (DRR consultant interview, 2021). In the meantime, a DCP and UNDP collaboration has seen the strengthening of existing EWS, integration of new components through partnerships with agencies such as the FAO, and the creation of a ‘pandemic window’ to capture health-related information and broaden the scope of existing systems – although the scope of this support is limited and not sufficient in itself to develop a multi-hazard EWS (UNDP email exchange, 2021).

The DCP is responsible for drafting national relief plans and coordinating prevention, preparedness and cross-sectoral response. Together with the Fire Brigade – an operational arm – the DCP leads the coordination of disaster response operations. It is also responsible for developing the ORSEC, which is complemented by the National Contingency Plan (République du Sénégal, 2008b). An ORSEC

Plan was put in place by Decree No. 93-1288 on 17 November 1993 (République du Sénégal, 1993) and a National Contingency Plan was created in 2008 targeting floods, locus infestations and epidemics (primarily cholera and malaria) (Lo, 2013). The ORSEC Plan is still functioning and the DCP coordinates a National ORSEC Plan Resource Management Committee to address some of the operational and financial challenges impeding effective implementation (DRR consultant interview, 2021). The National Contingency Plan is supported by sectoral response plans that aim to guide immediate response and address urgent needs in the sectors of water, sanitation and hygiene (WASH), safety, and food, health and nutrition (DRR consultant interview, 2021).

It has been difficult to ascertain the extent to which gender and intersectional differences are considered in plans and practice of preparedness, risk reduction, and response and recovery actions. However, there are individual project-based efforts that aim to enhance women's disaster resilience. This includes, for example, the UN Women and UN Capital Development Fund (UNCDF) project launched in March 2021, which aims to utilise the private sector to identify digital solutions to enhance women's access to risk transfer and reduction mechanisms in Senegal (and Mali, among other countries) (UN Women, 2021). This involves increasing access to microinsurance products and services and EWS, as well as enhancing financial inclusion for women to support improved disaster resilience (UN Women, 2021).

Looking ahead, many DRR stakeholders hope to continue to benefit from partnerships with development, climate and humanitarian donors. Senegal has benefited over the years from funding from the World Bank, the German Government and United Nations agencies such as UNDP. More recently, the Climate Change Division of the DEEC has worked in partnership with a number of climate funds and instruments, including the Global Environment Fund and the GCF.

There are plans to enhance DRR capacity, particularly within the UN system. In 2020 the Government of Senegal, through the Ministry of Interior, sought support from CADRI (n.d.) to conduct an assessment along with a request to UNDP to support the development of a National Disaster Risk Reduction Strategy (UNDP email exchange, 2021). Given UNDP's extensive experience in West Africa, a high-quality process to produce a national strategy could not only help to ensure that Senegal contributes to Sendai Framework Target E – to have national and local DRR strategies in place by 2020 – but could also help to improve harmonised action on DRR across the country's various DRR stakeholders.

Observations and recommendations

Challenges and barriers

Despite the existence of sectoral EWS, there is currently a low level of cross-sectoral coordination and no centrally located multi-hazard EWS (Senior Expert Consultation, 2021). Attempts were made a few years ago to prototype a multi-risk EWS in addition to a test platform; however, the low level of participation of sectoral institutions resulted in the data not being updated (Senior Expert Consultation, 2021).

In terms of preparedness and response plans, despite the existence of the ORSEC from 1993 onwards, the Plan was not fully operational as of the 2015 baseline. Difficulties cited include mobilising funds related to cumbersome public expenditure procedures, a lack of common tools for rapid assessment of impacts and needs, and the lack of a functional emergency operations centre (Lo, 2013). Other notable impediments are the lack of coordination between the state and

development partners, and lack of operational capacity of the Fire Brigade (Lo, 2013). The National Contingency Plan (developed in 2008 to support the ORSEC Plan – République du Sénégal, 2008b) is, in the opinion of many DRR experts, incomplete and covers too few hazards in relation to the country's risk profile (Senior Expert Consultation, 2021). Furthermore, many believe that rather than having five sectoral-based response plans to accompany the National Contingency Plan, it would be better to have a single, harmonised plan capable of guiding multi-sectoral responses to various different risk scenarios (DRR consultant interview, 2021).

While several sector-specific contingency plans exist, their level of effectiveness varies. For example, the nutritional risk contingency plan, implemented by the Food Security Secretariat, is reportedly updated regularly. However, despite a number of donor investments in flood contingency planning, there remains the perception that national contingency planning for flooding still requires development and funding for implementation is a major shortcoming (Senior Expert Consultation, 2021). Further, the absence of any centralised guidelines on response measures creates confusion around who is responsible for which actions under different scenarios.

Although national authorities have issued guidance on strengthening decentralised response mechanisms, it remains to be seen whether these recommendations will be followed. According to experts, the prerequisites for the development of specific plans have yet to be met; this includes the publication of a guide on the development of Specific Intervention Plans (*Plans Particuliers d'Intervention*) (Ministry of Environment and Sustainable Development interview, 2021).

For certain hazards, specific response plans have been enacted but they insufficiently define the roles and responsibilities of the various stakeholders, producing overlaps in mandates at all levels. This often results in a lack of effectiveness and accounts for difficulties in cross-sectoral coordination on the ground between structures with similar mandates. The allocation of funds to make these plans operational is regulated by administrative procedures. One example is the National Food and Nutrition Insecurity Response Plan (*Stratégie nationale de sécurité alimentaire et de résilience 2015–2035, SNSAR*) (République du Sénégal, 2015), a response and consultation mechanism based on various indicators provided by the EWS. Unfortunately, convening the decision-making body that decides on implementation policy takes several weeks, if not months. In addition, the exclusion of the Ministry of Economy, Finance and Planning from the body's board is a significant impediment to mobilising funds (CADRI interview, 2021). Obstacles pinpointed by various stakeholders include the absence of consensus among the various institutional players involved in the management chain (from preparation to response), as well as the weakness of operational mechanisms and logistics.

Many interviewees suggested that further work is needed to take account of gender and other intersectional differences (see Chaplin et al., 2019) in disaster preparedness, risk reduction, response and recovery plans and operations across Senegal. The gendered impacts of climate change and climate-related disasters are increasingly being documented, alongside the implications for political stability, patterns of human mobility and sustainable livelihoods (McOمبر, 2020). As opportunities are taken to advance climate and disaster policy and programmes, greater consideration of intersectional differences will be required to ensure that inequalities or discrimination are not exacerbated or transferred to other sub-sets of society but instead are addressed holistically.

Recommendations

(P4 N-1) Strengthen multi-hazard EWS.

(P4 N-1) It is recommended that the process of assessing whether, how and where a national multi-hazard EWS is established should become an inclusive and widely publicised process. This is because it has been difficult to ascertain the status of plans to assess the feasibility of establishing a multi-risk EWS. If such a system is to be established, sectoral data inputs are required – something that was not forthcoming in previous attempts. Thus, any ambition to collate or combine sectoral hazard data and early warnings will hinge on the engagement of all relevant line ministries and departments, while a more visible process will help to lay the foundations for future engagement and buy-in. A technical assessment should be commissioned, in collaboration with the DCP, to assess the current interoperability of sectoral data collection systems and EWS and to inform the development of a plan to move from the current state of multiple EWS to a centrally coordinated system that compiles all relevant forecasting data.

(P4 N-2) Develop national preparedness and response strategies incorporating gender and ‘build back better’; (P4 N-4) Develop comprehensive preparedness and response plans.

(P4 N-2) and (P4 N-4) Under the direction of the DCP – and the revived DRR Platform that is recommended – a review could be undertaken to assess the current effectiveness of the ORSEC, the National Contingency Plan and the five accompanying sectoral response plans. The UN Country Team (UNCT) could showcase examples from other countries of integrated response plans that describe multi-sectoral responses and their coordination in humanitarian situations, and the benefits that derive from more harmonised ways of working. If responsive, the DCP could define a one-year goal to collaboratively reformulate the sectoral response plans into a single harmonised strategy, which can then be tested through simulations and ideally expanded over time to include a broader range of threats and hazards. Post-COVID-19 recovery financing from external sources could be targeted to help fund some of the process, noting that the inclusion of biological risks in the context of cascading risks is a real threat (see UNDRR, 2019).

(P4 N-2) It has been difficult to ascertain the extent to which current preparedness and response policies, plans and mechanisms are gender-sensitive or take into consideration other intersectional differences (such as age, sex and ethnicity). If gender has been considered, this is not well known among the prominent DRR stakeholders across Senegal. Policy recommendations made by the OECD (McOmber, 2020) should be heeded, resulting in several actions: greater disaggregation between services offered to men and women to support adaptation to climate change; consideration of men’s and women’s differential knowledge and knowledge systems when incorporating local knowledge into disaster and climate plans and operations; and finally, while gender equality indicators are useful measures of change, the broader societal transformations required to address deeply entrenched gendered power dynamics require redress, which necessitates action over a much longer timeframe, perhaps decadal (McOmber, 2020). Existing projects such as those funded by Innovation Norway through UN Women and UNCDF (UN Women, 2021) could extend the current project and enable collaboration with other gender-specialist entities. Additionally, such efforts could include a policy component assessing and undertaking advocacy to enhance the meaningful inclusion of women and women’s differential needs in policy, practice and funding streams for climate and disaster resilience. Similarly, UNDP could ensure that the design of new disaster preparedness, contingency and response and recovery plans includes intersectional differences and corresponding gender markers to track progress.

(P4 N-3) Create/strengthen national preparedness and response institutions.

(P4 N-3) Capacity-building is required to enhance sectoral-specific understanding and planning on disaster response and the transition to recovery. This would complement existing work on risk reduction and proposed recommendations to strengthen contingency and response planning and action (described above and below). DRR experts have identified challenges in the lack of commonly agreed response mechanisms, lack of systematic PDNA, and lack of policies or guidance that transition from response to longer-term recovery. Drawing on its extensive experience elsewhere in the region, the UNCT, and UNDP specifically, could build on the PDNA and disaster recovery framework training carried out in May 2021 by delivering a series of sustained capacity-building sessions to enhance understanding of best practice on coordinated disaster response and effective transitions to sustainable disaster recovery. With improved knowledge and understanding among major DRR stakeholders, it should be possible to engage in a longer-term process of advocacy for the foundational mechanisms to be put in place, including (but not limited to) a harmonised multi-hazard response framework, a set of standards and guidelines on response coordination, standardised PDNA tools and methods, and pre-prepared disaster recovery plans that are automatically activated following response operations.

(P4 N-4) Develop comprehensive preparedness and response plans.

(P4 N-4) Building on historical experience of responding to flood emergencies (see GFDRR et al., 2014) and recent responses to the 2019 and 2020 floods by the IFRC and other national actors (IFRC, 2020), a flood contingency, response and recovery plan could be created. The process for doing this will need to bring together all Senegalese stakeholders involved in flood risk, including the National Committee for Flood Prevention, Supervision and Monitoring, ANACIM and DGPRES, among others. Links could be made to the funding already provided through the PGISS, which commenced in May 2021, funded by AFD. This can act as a standalone contingency, response and recovery plan – or if the recommendations under P3 N-2 are taken up, it can be integrated into a multi-sectoral contingency plan.

(P4 N-5) Support response training and simulation exercises.

(P4 N-5) Related to P4 N-3, national DRR stakeholders have pointed to the lack of training and research on monitoring and evaluation of response mechanisms. This acts as a barrier to deeper understanding of what works and what does not in humanitarian responses across the country. Empirical research should be commissioned to assess the effectiveness and limitations of current responses to a sub-set of disaster events (including, for example, the 2019 and 2020 floods, and the 2020–2021 COVID-19 crisis) to better understand the baseline for action. The findings could be shared in a series of dialogues at a national and sub-national (in the affected areas) level to encourage greater discussion on the way response is currently delivered and the opportunities and incentives to take a broader approach to risk management. This broader approach could include guiding participants to better understand the need to directly link the effectiveness of response interventions to the effectiveness of disaster recovery.

(P4 N-5) Regarding the recommendation above, to aid the encouragement of key DRR stakeholders to consider the need to pre-plan for disaster recovery, an empirical study is required in a sub-set of five or six disaster events in Senegal – from different regions, different hazard events and different levels of investment in recovery – to demonstrate any differences between self-recovery (where affected households recover independently of any external support – see Twigg et al., 2017) and

planned recovery measures (to the extent that they exist within Senegal). The study could explore the impacts on livelihood sustainability and economic recovery, well-being and social dynamics. Special consideration should also be given to the differential gendered and intersectional experiences and outcomes from disaster recovery processes. The findings could be presented in a session at the upcoming Africa Regional Disaster Risk Reduction Platform and Ministerial Conference, to ignite discussion about self-recovery and planned recovery measures across the West Africa region.

(P4 N-6) Facilitate partnerships to mobilise humanitarian funding.

(P4 N-6) Pending the outcome of the collaboration between the Government of Senegal and CADRI, the UNCT should dedicate space to consider the emerging lessons and recommendations that are being developed by CADRI. It is likely that a set of actionable recommendations will be produced, and a financing plan will need to be crafted to take these forwards. The Ministry of Interior should be supported to devise such a plan, to ensure that the challenges experienced in other Sahelian countries can be avoided (where CADRI national capacity-building action plans are stalled owing to limited funding).

Chapter 10: Regional and continental level

Reader's guide:

- This section briefly describes the risk profile of the region before summarising the progress and achievements made, and barriers and constraints, for each of the four priority areas of the African Union Programme of Action (AU PoA) (which mirror the four areas of the Sendai Framework).
- For each of the four priority areas, the summary of progress, challenges and barriers *specifically reflect* the Priority Activities from the AU PoA implementation matrix (see Chapter 1).
- Detailed recommendations are provided for each priority area, linked to the specific AU PoA Priority Activities. The coding system described in Chapter 1 is employed to help readers connect the recommendations to the AU PoA Priority Activities.
- Although specific regional recommendations are provided, readers are encouraged to adapt the recommendations to other sub-regions in the continent, as appropriate.
- Further details of the regional progress on disaster recovery are included in Chapter 11.
- Details of the methodology (primary and secondary evidence collection and analysis) that informed this chapter can be found in Chapter 1 and Annex 4.
- Acronyms are written in full the first time they are used within the chapter.
- Chapter bibliographies are included at the end of the report, which for the country and regional–continental analysis chapters are further separated into the general overview followed by the priority areas.

General overview

The countries in West Africa and the Sahel region (Burkina Faso, Chad, Mali, Mauritania, Niger, Nigeria and Senegal) fall in the low- or lower middle-income bracket, with Senegal having the highest gross domestic product (GDP) per capita at US\$3,545 and Chad the lowest at US\$710 (World Bank 2021a; 2021b). Levels of economic growth vary across countries, with Niger and Mauritania – which both have a GDP per capita below US\$1,000 – achieving growth rates of 6.3% and 5.9% respectively (World Bank, n.d.; 2020a; 2021c; 2021d). Despite this progress, however, poverty rates remain relatively high across the region. In Nigeria, for example, 40% of the population lives below the national poverty line, with COVID-19 expected to push another 7 million people into poverty (National Bureau of Statistics, 2020; World Bank, 2020b).

West Africa and the Sahel is also experiencing high levels of population growth. Nigeria's population, for example, grew from just over 95 million people in 1990 to over 200 million in 2019 (World Bank, 2021e). Sub-Saharan Africa is expected to add another 1 billion to its population by 2050 (UN DESA, 2019), while Africa and Asia are expected to account for 90% of 2.5 billion people added to the world's urban population (UN DESA, 2018). Across the region, population growth and urbanisation, as well as poverty and inequality, are increasing overall exposure and vulnerability, while infrastructure development, regulatory mechanisms and risk management capacity are all struggling to maintain development trajectories and are enhancing risk creation (UNDRR, 2020).

The region is progressing in terms of human development, with access to education and life expectancy having improved in all countries. However, many development challenges persist. Most countries in the region rank towards the low end of the Human Development Index 2020, while four – Chad, Burkina Faso, Mali and Niger – are among the 10 least developed countries within the Index (UNDP, 2020). Youth unemployment is high across the region too. In Senegal, for instance, youth unemployment rates are above average, with 23% not in employment or education (UNDP, 2020). Improving gender equality also remains challenging for all countries, with women having lower levels of political participation and access to healthcare, education and labour markets (UNDP, n.d.a).

COVID-19 cases and mortality are comparatively low across the region, although lower testing capacity may account for the lower case numbers. Pandemic-related restrictions have had impacts across economic sectors, however. Within the Economic Community of West African States (ECOWAS), economic impacts of the pandemic include higher levels of public deficit and debt, with budget deficit predicted to rise to 6.4% in 2020, and public debt to 41% in 2020 and 42% in 2021 (ECOWAS et al., 2020). Falling exports of oil, minerals and agricultural products as a result of slowing demand have also affected regional economies (ECOWAS et al., 2020), although the economic impacts are differentiated across countries. In Nigeria, price hikes, lower stocks and restrictions on public events, education and closure of health facilities have contributed to social tensions (ECOWAS et al., 2020). In Burkina Faso, Niger and Senegal, local markets closed and restrictions were placed on cross-border and internal movement.

Geographical and political groupings

Mapping African regional cooperation is extremely complex, with Regional Economic Communities (RECs), sub-regional arrangements, inter-state committees, United Nations (UN) regional office groupings, commissions, alliances and various regional implementation centres. The seven focus countries of this assessment do not fit neatly into the membership of the RECs. The 15 Member States of ECOWAS include five of the seven focus countries: Burkina Faso, Mali, Niger, Nigeria and Senegal. Chad is part of the Economic Community of Central African States (ECCAS), while Mauritania is part of the Arab Maghreb Union. All seven countries are part of the Community of Sahel-Saharan States. Four of our focus countries – Burkina Faso, Mali, Niger and Senegal – are also part of the West African Economic and Monetary Union (UEMOA/WAEMU). For more information see Annex 5.

This assessment focuses on ECOWAS, as its members are important stakeholders and key actors responsible for delivering the continental and regional Priority Actions outlined within the AU PoA. Contributions from selected specialised institutes, regional organisations, commissions and initiatives are also considered. It should be noted that the country groupings, particularly of official development assistance (ODA) funded initiatives, can vary greatly.

In terms of governance of disaster risk reduction (DRR), the AUC supports the development of strategic plans to guide the implementation of the Sendai Framework across the continent, which includes the AU PoA. The AUC also convenes the Africa Working Group on Disaster Risk Reduction and the biennial forum, the Africa Regional Platform and related ministerial meetings. Under the Directorate of Humanitarian and Social Affairs, the ECOWAS Humanitarian Affairs and Disaster Management Division – which has recently become a Humanitarian Affairs and Disaster

Management Division – is responsible for the ECOWAS DRR Programme of Action and related regional plans, guidance and initiatives (UNDP, 2019).

Risk profile

West Africa and the Sahel are exposed to hydrometeorological, environmental, biological, technological and societal hazards (AUC, 2020). While the number of mortalities attributed to disasters has consistently declined over the last 20 years, the total number of people affected and at risk continues to grow. Worldwide, Africa is the only continent where disasters have increased over the past 20 years (UNDRR, 2019, in AUC, 2020). The overall number of people directly and indirectly affected by disasters across 44 sub-Saharan countries amounted to 157 million over the period 2008–2018, with most linked to natural hazards (UNDRR, 2020). Natural hazard-related disaster led to 47,543 fatalities and technological hazards to 15,173 between 2010 and 2018; cumulatively, disasters caused around 225,237 fatalities (UNDRR, 2020). Among natural hazards, epidemics led to most fatalities, followed by floods and landslides (UNDRR, 2020).

Compared with the other six economic regions of Africa, ECOWAS ranks at highest risk of exposure, vulnerability and population affected by disasters between 2015 and 2018. Data on economic impacts and damage to critical infrastructure remains underreported across the region (ECOWAS, 2019). Across the continent, growing population and urban migration, along with environmental degradation, poor urban planning and climate change, mean that urban disasters are likely to increase (ECOWAS et al., 2019).

Hydrometeorological hazard-related disasters

West Africa spans diverse bioclimatic zones (the Sahel, Sudan, Guinean and Guineo-Congolian) and bioclimatic regions (rainforests, coastal plains, lowland plateaus, deserts and isolated highlands) (USAID, 2018). The region experiences variable temperatures and rainfall, with annual average temperatures between 22–28°C and up to 40°C in the Sahel in summer, and rainfall variability of between 10% and 20% in coastal areas, and over 40% in the Sahel and Sahara (USAID, 2018). During the dry season (November–March), the northern Harmattan winds decrease humidity and bring sandstorms and dust (USAID, 2018). The region has experienced large rainfall deficits, particularly in the early 1980s, and while somewhat recovered, the cumulative rainfall has not reached pre-1960s levels (USAID, 2018). In future, the region will likely experience higher temperatures, and increased frequency and duration of heat waves and variable rainfall. The rainy season is expected to occur later in spring, alongside heavy rainfall events in some areas and decreased rainfall in others, and rising sea levels (USAID, 2018).

Floods are among the greatest hydrometeorological hazards in West Africa and the Sahel. Floods are increasing in frequency, intensity and severity, and are leading to rising mortality rates and damage to infrastructure, social capital and livelihoods. Flood impacts across the region are likely underestimated owing to challenges in data collection. Rapid and poorly managed urbanisation is increasing the vulnerability of countries to urban flooding which can also lead to disease outbreaks.

Droughts in the Sahel have declined in frequency but still affect significant numbers of people. In Burkina Faso, Mali and Niger, droughts have led to population displacement. Better adaptive and coping capacity have led to relatively stable mortality and physical damage rates (ECOWAS, 2019). In Chad, the 2017 drought affected 1.8 million people, while earlier droughts in 2012 and 2009 affected 1.6 and 2.4 million people respectively (EM-DAT, n.d.). Droughts and floods are leading to food

insecurity through reducing crop production and population displacement across the region. For instance, in Senegal, droughts have affected over 3 million people since 1980 and around 35% of national crop was lost during the 2002–2003 drought alone, at a cost of US\$50 million (World Bank, 2013).

Environmental hazard-related disasters

The region faces numerous environmental hazards, ranging from land degradation, desertification, and sea-level rise through to pollution. High levels of poorly planned urbanisation that lead to poor waste management and sanitation exacerbate the impacts of urban flooding and lead to disease outbreaks. Poor waste management and urban risk planning exacerbated urban flooding and mudslides in Niamey, Niger, for example, where 40 people died after mudslides and many more were affected. Burkina Faso and Mali are also vulnerable to wildfires, which decimate forests, killing animals and humans. Among ECOWAS countries, Sierra Leone recorded the highest mortalities from fires, followed by Ghana, Mali and Burkina Faso (ECOWAS, 2019).

Biological hazard-related disasters

West Africa is increasingly at risk of epidemics and disease outbreaks (ECOWAS, 2019). Poor sanitation and overcrowded living conditions, coupled with rapid urbanisation, worsening environmental conditions and poverty are all driving the exposure and vulnerability of countries across the region. For instance, in Mauritania, proliferation of mosquitoes after floods and poor sanitation contribute to dengue fever outbreaks (WHO, 2018). In Nigeria, poor waste collection and management practices lead to rodent infestations and outbreaks of leptospirosis after floods (Olanrewaju et al., 2019).

Between 1985 and 2015, epidemics led to over 60,000 deaths and 970,000 casualties across the region (ECOWAS, 2019). Between 2014 and 2016, the region experienced an outbreak of Ebola virus, with the number of mortalities and affected populations likely underreported due to institutional challenges (ECOWAS, 2019). In the years between 2015 and 2018, Nigeria recorded the highest number of disease-related mortalities – over 6,060 – while Niger reported the highest number of deaths from epidemics. As of 3 August 2020, the number of COVID-19 cases among ECOWAS members stood at 131,680, with relatively low mortality rates and high cure rates (ECOWAS et al., 2020). However, relatively low test rates mean that case numbers are highly likely to be underreported (ECOWAS et al., 2020). By 28 September 2021, confirmed COVID-19 cases in the ECOWAS region stood at 646,552 with 9,229 deaths (ECOWAS and WAHO, 2021). Although West Africa and the Sahel have lower official levels of COVID-19 infection and mortality when compared with other regions, the pandemic has affected millions of people through restrictions on movement, as well as external factors such as declining demand for commodities like oil affecting economic growth, and disruption to education and health services in some countries.

Locust and other insect infestations across the region impact agricultural livelihoods and threaten food security. Seasonal winds and sandstorms in countries including Burkina Faso and Niger exacerbate insect infestations, spreading the insects to more communities (GFDRR, 2011; MAH/GC, 2020). In Niger, a locust outbreak in 2003–2005 damaged 35% of tree crops and 90% of pastures, leading to acute food insecurity that affected 3.5 million people (MAH/GC, 2020).

Societal and other uncategorised hazard-related disasters

West Africa and the Sahel face numerous societal hazards, with conflict, political instability and violence all acting as major drivers of insecurity. Most ECOWAS members score poorly on corruption and the political stability necessary to ensure food security, though with regional variation: Senegal scores better than neighbouring Burkina Faso and Nigeria (ECOWAS et al., 2020). Nigeria, Mali, Niger and Burkina Faso also rank poorly on the absence of violence indicators. Overall fragility, conflict and violence weaken the capacity of states to deal with their underlying causes and delivery of other services, including health and education. ECOWAS et al. (2020) highlights that during the COVID-19 pandemic, conflicts did not subside in Nigeria, Mali and Burkina Faso, and the ensuing economic and social tensions should be monitored.

West Africa and the Sahel also face multifaceted and interlinked security challenges. Erratic rainfall and rising temperatures lead to droughts and contribute to food insecurity, creating a volatile environment that is driving internal displacement and increasing numbers of refugees. These dynamics foster livelihood insecurity and social tensions, vulnerability to climate risks, and natural resource conflicts between pastoralists and farmers (Vivekananda and Born, 2018). Violent Boko Haram insurgency, which has spread from Nigeria to neighbouring countries including Chad and Niger, has led to population displacement; leaving 5 million people in north-east Nigeria and 8.5 million people in the Lake Chad region at risk of food insecurity (Vivekananda et al., 2017).

While the current crisis was triggered by Boko Haram insurgency, longstanding development challenges – including inequality, political marginalisation, environmental stress and droughts – are among the underlying drivers of conflict (Vivekananda et al., 2017; Vivekananda and Born, 2018). Humanitarian efforts in the region have accelerated since 2017. Regional and international efforts by the AU, United Nations (UN) Security Council and donors have focused on stabilising the region by limiting terrorist activities and responding to humanitarian crises (Vivekananda and Born, 2018). The deteriorating security situation limits humanitarian access in many countries in the region, however, as well as disrupting public health and education provision and undermining food security.

Due to high levels of conflict and displacement, countries across the region are home to refugees, internally displaced persons (IDPs) and returnees. Chad hosts the highest number of refugees: almost half a million people, predominantly from neighbouring Sudan and Central African Republic. Nigeria has the most IDPs – almost 3 million people (UNHCR, 2021a; 2021b). In the absence of humanitarian assistance, many IDPs face food insecurity.

Technological hazard-related disasters

Finally, although not a focus of this assessment, it is worth noting that the frequency and severity of technological hazards have increased in the region. Technical failures, system breakdowns, industrial accidents, building collapse and oil spillage are some of the triggers of such hazards (ECOWAS, 2019). EM-DAT statistics record over 1,132 incidents in the past 34 years across ECOWAS, which have affected 88 million people, caused US\$1.1 billion worth of damage to critical assets and livelihoods, and led to nearly 90,000 casualties (ECOWAS, 2019). Between 2015 and 2018, Mali was among the countries most affected by this type of hazard, recording 922 mortalities (ECOWAS, 2019). Over a 34-year period, technological disasters have affected over 88 million people across the ECOWAS region, resulting in approximately US\$1.1 billion of lost assets and livelihoods (ECOWAS, 2019).

Priority 1: Understanding disaster risk

Progress and achievements

Monitoring and surveillance

A vast array of mechanisms and partnerships are in operation to support the surveillance of continental and regional risks (P1 C-1). Progress during the Sendai Framework period includes the 2017 Memorandum of Understanding (MoU) between the African Centre of Meteorological Applications for Development (ACMAD) and the Regional Training and Application Centre for Agrometeorology and Hydrology (*Centre Régional de Formation et d'Application en Agrométéorologie et Hydrologie Opérationnelle*, AGRHYMET) to support the Global Framework for Climate Services (GFCS) implementation in the ECOWAS sub-region (ACMAD, 2017). Created in 1974, the AGRHYMET Regional Centre is a specialised institution of the Permanent Inter-State Committee for Drought Control in the Sahel (CILSS) that initially covered 13 countries, before extending its activities to the whole of West Africa in 2009 (Traore et al., 2014). The 'increased occurrence of climate extremes throughout the region made CILSS and AGRHYMET evolve from tackling only drought-related issues to address all climate hazards' (Traore et al., 2014: 8).

AGRHYMET provides climate monitoring, data services and training, while ACMAD provides long-range forecasting. While ACMAD covers the 54 countries of Africa and collaborates with the AUC and other pan-African bodies, AGRHYMET has a mandate over the Sahel and West African countries and coordinates with ECOWAS. ACMAD is expected to support Regional Climate Centres (RCCs) in their role, while AGRHYMET must directly support countries and National Meteorological and Hydrological Services (NMHS), and develop products for end-users (e.g., farmers, pastoralists, etc.) (ACMAD, 2017).

AGRHYMET continues to face several challenges to downscale global weather and climate data, some of which are related to data acquisition in Member States, their timely transmission to the processing centre and the small number of observation points. Efforts have been made to solve those issues by adopting new technologies and broadening scientific and technical collaboration with international research centres. Efforts are ongoing at AGRHYMET to improve the various information products, by, for example, upgrading and coupling crop simulation models with satellite-derived climate data and climate forecast models at short and medium time scales, by blending these data to fill spatial and temporal gaps (ACMAD, 2017).

In January 2021, Agreenium and the AGRHYMET centre worked together to co-design a digital campus for food security in the Sahel. At the end of this workshop, it was agreed to reconfigure the digital ecosystem of the AGRHYMET centre (the website, a geoportal for the management and valuation of agro-hydro-meteorological data, and a digital campus for information and user training) and to produce digital resources to feed the digital campus from July 2021 (Agreenium, 2019). The United Nations Environmental, Scientific and Cultural Organization (UNESCO) is also working with the AGRHYMET/CILSS to develop a water disaster platform to enhance the climate resilience of 11 countries through cooperation with the International Centre for Water Hazard and Risk Management (UNISS, 2019). Related efforts within the World Bank/Global Facility for Disaster Reduction and Recovery (GFDRR) Africa Hydromet Program have sought to modernise the hydrological and meteorological systems and services of sub-Saharan African countries between 2017 and 2020 (AfDB et al., n.d.a).

A taskforce has been established with ACMAD, the World Meteorological Organization (WMO), GFCS and recipient countries 'to enable AGRHYMET to become a full-fledged RCC serving the needs of West African NMHS and other climate-sensitive sectors' (GFCS, 2017). In the near-term, this process should also lead to the establishment of a strategic plan of action between AGRHYMET and ACMAD (GFCS, n.d.). The ClimDev Special Fund (CDSF) is notable for providing significant financial and technical support to bolster African RCCs including AGRHYMET, alongside specific investments at the national level (AUC et al., 2018). Significant volumes of CDSF funds have been used for the purchase and installation of equipment for the collection, analysis and dissemination of meteorological and climate data (AUC et al., 2019).

Furthermore, initiatives such as the Sahel Resilience Project are supporting AGRHYMET (with equipment and human resources) to establish a regional information platform for collection, analysis and dissemination of climate and disaster data (with potential linkages to sources of conflict-related data) to facilitate early action and risk-informed development in the region (UNDP email exchange, 2021). A capacity assessment of AGRHYMET for hosting such a platform is currently in its final stages. Meanwhile, based on the initial findings of the assessment, AGRHYMET is in the process of procuring equipment for data processing (UNDP email exchange, 2021).

Cadre Harmonisé

The most notable initiative in the region is the *Cadre Harmonisé*, a unifying tool that synthesises the current and projected food and nutritional situation across West Africa at the regional, national and sub-national resolution (CILSS et al., 2019). Regional food security maps and two-month projections are produced, which are then linked to the triggering and mobilisation of the ECOWAS Regional Food Security Reserve (RRSA) and are used as a decision-making aid for the High-Level Committee on Food and Nutrition Security of UEMOA (CILSS et al., 2019). The *Cadre Harmonisé* process takes place twice each year, or more frequently if required, with analysis published on the Food Crisis and Prevention network website (CILSS et al., 2019). Its manual for analysing food and nutrition insecurity was upgraded to Version 2.0 in 2019 and incorporates new special protocols, one of which is dedicated to gender mainstreaming, as well as operationalisation in contexts of limited data availability (CILSS et al., 2019).

The 17 countries that adopted *Cadre Harmonisé* comprise 15 ECOWAS Member States plus Mauritania and Chad (CILSS et al., 2019). The African Risk Capacity (ARC) and Food Crisis Prevention Network (RPCA) are making efforts to synergise their methodologies and tools to enable greater harmonisation (ARC interview, 2021). This has included, for example, an ARC-organised methodological debate, supported by the International Livestock Research Institute (ILRI) and the Red Cross Red Crescent Climate Centre (ARC interview, 2021).

Observation and assessment

In terms of observation capacity, efforts are continuing to: (1) strengthen the access to Earth observation (EO) (i.e., access to satellite data); (2) increase weather forecasting capacities; and (3) develop and support in-situ observation systems. To address (1), the AUC and European Commission (EC) are engaging in the Global Monitoring for Environment and Security and Africa initiative (GMES) (AUC, n.d.). AGRHYMET now benefits from information EO available in near real-time via the Monitoring of the Environment and Security in Africa (MESA) EO data (MESA project 2013–2018) to support changes to agricultural practices. Launched in 2018, the MESA project provides AGRHYMET with

near real-time EO data, which are used to better inform, advise and monitor changes in agricultural practices (composition of crops and plants, better track wildfires, etc.) (Human Dynamics, n.d.).

The first GMES and Africa Forum in 2018 brought together more than 400 EO stakeholders from grassroots to research institutions, with the aim of extending the coverage and quality of EO services. To increase weather forecasting capacities, a suite of initiatives are ongoing, including the WMO Severe Weather Forecasting Demonstration Project, Climate Services for Increased Resilience in the Sahel, the AfriClimServ project, Satellite and Weather Information for Disaster Resilience in Africa (SAWIDRA), and the Strengthening Climate and Disaster Resilience in Sub-Saharan Africa Regional Framework Program to Improve Hydromet Services, among others. For (3), in-situ observations remain a challenge, with poor observations leading to biases in model simulations, something the African Monsoon Multidisciplinary Analysis – Coupling the Tropical Atmosphere and the Hydrological Cycle (AMMA-CATCH) community is trying to address through various research projects (*Nouvelle approche pour l'Eau des Villes Africaines* (NOEVA), African Monsoon Multidisciplinary Analysis 2050 (AMMA-2050), etc.) (AMMA-CATCH, n.d.; Galle et al., 2018).

Although initiatives focusing on exposure and vulnerability assessment at the regional level seem limited, it is worth highlighting that the *Cadre Harmonisé* provides guidelines for the assessment of contributing factors for food and nutrition security, especially key drivers (hazards/vulnerability) and limiting factors (food availability, access, use and stability). Also relevant is the ARC's Africa RiskView tool, which 'provides decision-makers with expected costs of drought-related responses, by identifying and quantifying risks related to drought' (ARC, n.d.a). More countries are subscribing to the ARC insurance so will also benefit from the Africa RiskView tool. During 2019/2020, 11 countries (ARC, n.d.b), including the Sahelian countries of Mali, Côte D'Ivoire, Niger, Senegal, Chad, Burkina Faso and Mauritania, established a national risk profile, which includes a component dedicated to vulnerability assessment; this is based on available household survey data from national government and the World Food Programme's (WFP) Comprehensive Food Security and Vulnerability Analysis surveys available in many countries (which provide information on the income-generating activities and wealth of households living within each geographic area) (ARC, 2019).

Several global data sources and risk assessments are available for the region. For example, the INFORM Platform Sahel model (JRC, n.d.), maintained by the United Nations Office for the Coordination of Humanitarian Affairs (UN OCHA), includes more than 40 indicators, covers 9 countries and has frequently been mentioned as a useful data source. Other sources and assessments include the Thinkhazard and GeoNode platform, Open Cities Africa and ACAPS (AUC et al., 2019). The regional INFORM Sahel model was initiated in 2017 by the Emergency Response and Preparedness Group of the regional Inter-Agency Standing Committee and managed by UN OCHA. The Africa Disaster Risk Financing (ADRF) Initiative has produced disaster risk profiles for 13 African countries (including Mali, Niger and Senegal) (GFDRR, n.d.).

Many other data sources target specific user groups. For example, independent risk analyses are produced by ACAPS using the INFORM Severity Index, with the aim of informing humanitarian decision-making on preparedness and planning for the coming six months (ACAPS, 2020). Others target specific sub-geographies – for example, the World Bank and GFDRR Open Cities Africa initiative has carried out risk analysis focused on urban risks in 11 cities, including Saint-Louis (Senegal), Abidjan (Côte d'Ivoire), Bamako (Mali), Niamey (Niger) and Ibadan (Nigeria) (Open Cities, n.d.). More recently, risk modelling efforts have included an ARC collaboration with the Africa Centre

for Disease Control and Prevention (Africa CDC) to utilise COVID-19 modelling tools to enable selected African states to better manage the pandemic and improve response targeting. To date, this has included COVID-19 Potential Outcomes Scenarios and a COVID-19 Spread Simulation Tool for Africa (Africa CDC, 2020).

Currently, risks related to droughts (and impacts on food security) are well covered. However, there are major gaps regarding flood risks; in turn, as flood-related risks are less recognised, there are fewer operational recommendations for governments on how to manage floods and a lack of knowledge and capacity to anticipate and respond to floods. There is some progress, however: such as the development of a flood management strategy, the establishment of a monitoring platform for the water and sanitation sector in West Africa, and development of the 2018–2022 strategic plan of the Water Resources Coordination Center (WRCC). From 2018 to 2021, the H2020 project ('Reinforced cooperation to provide operational flood forecasting and alerts in West Africa – FANFAR') enhanced the cooperation between West African and European hydrologists, information and communication technology experts, decision analysts and end-user communities to provide a co-designed streamflow forecasting and alert pilot system for West Africa, which is already being used by West African institutions (EC, 2020). Efforts are also ongoing to adapt the drought-focused model of the Africa RiskView to flood models (ARC, n.d.a). In addition, the RPCA aims to establish a regional mechanism, similar to the *Cadre Harmonisé*, to assess flood risk. Such a mechanism should be supported. These two mechanisms should be considered foundational to establishing a cross-governmental mechanism over the coming 10 years with the technical and financial capability to assess multi-hazards, and linking to a clear institutional and operational framework for risk-informed decision-making in order to better anticipate, mitigate and prepare for crisis situations.

Knowledge sharing and capacity-building

In terms of knowledge sharing at the continental level, the annual Understanding Risk and Finance Conferences, convened by GFDRR, have been cited by interviewees as important forums for sharing regional expertise and knowledge on risk modelling, early warning systems (EWS) and risk-informed decision-making. The 2019 Understanding Risk conference, held in Abidjan, focused on West and Central Africa and included delegations from 33 African countries. Sessions covered urban risk, disaster risk financing, mapping and coastal adaptation (IBRD and World Bank, 2020). Among the latest regional initiatives, a highlight is the ECOWAS Hydromet Forums, the first of which took place in September 2018 in Abidjan, and the second virtual forum in April 2021. Discussion topics included: (1) sharing of innovative means and good practices for DRR; (2) promotion of risk financing and insurance in West Africa; and (3) establishment of a Community of Practice for recovery planning for the ECOWAS region.

There have also been efforts to enhance capacity. For example, in 2019 the AUC through the GMES & Africa initiative developed a Training Strategy based on a training needs assessment of continental, regional and national institutions (AUC and EU, 2019). Among the priority gaps to address are the development of specific courses on: (1) infrastructure and data (tools, systems and platforms); (2) service development and delivery; and (3) communication and engagement (interaction of services with users). Based on this assessment, curricula have been developed (AUC and EU, 2019).

Finally, the African Science and Technology Advisory Group (AfSTAG) was established in 2019 and is operational (AUC email exchange, 2021). Over the coming year, the AfSTAG is expected to advance

understanding and mapping of different risk assessment approaches and methodologies (AUC interview, 2021).

Intersectionality and cross-border risks

Other aspects of the AU PoA at the regional level focus on the generation of risk information packages for different cultural, gender and age groups. The update to the *Cadre Harmonisé* is a notable step in this direction, along with ECOWAS prioritising gender mainstreaming in their DRR activities through a Disaster Risk Reduction Gender Strategy and Action Plan (ECOWAS DRR GSAP) (ECOWAS, 2020a; UNDRR, 2020). The ECOWAS DRR GSAP has been developed through an extensive stakeholder consultation process at the regional and Member State level and now requires operationalisation (UNDRR, 2020).

The regional-level AU PoA also notes the ambition to establish or enhance protocols for sharing cross-border risk information and knowledge (P1 R-7). Since 2015 a significant set of protocols have been implemented to this end. First, in 2017, ACMAD and AGRHYMET signed an MoU to better define their scopes of intervention and modalities of collaboration (ACMAD, 2017). An MoU has also been signed between ARC and CILSS/AGRHYMET, allowing AGRHYMET to access ARC software and use ARC data and models (ARC interview, 2021).

The efforts over the past 10 years to harmonise the Integrated Food Security Phase Classification (IPC) and the *Cadre Harmonisé* Acute Food Insecurity approaches have also been successful, contributing to a deeper analysis and action on cross-border risks. Based on a joint IPC *Cadre Harmonisé* roadmap developed in 2017, the IPC Global Support Unit (GSU) is supporting the *Cadre Harmonisé* through country analyses, regional consolidation and quality control (IPC, 2017). Further, the IPC GSU is piloting the third iteration of the IPC manual which includes Acute Food Insecurity, Acute Malnutrition, and Chronic Food Insecurity scales and classifications across West Africa and the Sahel (FAO, 2019) to strengthen *Cadre Harmonisé* development and implementation and improve the quality of analyses.

Observations and recommendations

Challenges and barriers

Despite positive progress on Priority 1, AGRHYMET and other key stakeholders have reported several ongoing limitations. These include the weakening of data collection and information systems in many countries, inadequate technical resources, insufficient use and validation of information by at-risk communities, and insufficient funding (ACMAD, 2017). There are also concerns that more needs to be done to commit ECOWAS Member States to establish statistical analysis units to extend coverage and strengthen forecasting capacity (Sahel and West Africa Club (SWAC)/Organisation for Economic Cooperation and Development (OECD) interview, 2021) – which would require an ECOWAS directive. The second phase of the GMES & Africa, and other initiatives like the 12-year (2016–2027) roadmap of the Integrated African Strategy on Meteorology, offer potential to address some of these limitations. This is in addition to ongoing initiatives such as the World Bank/GFDRR ‘Building disaster resilience to natural hazards in sub-Saharan African regions, countries and communities’ (BDR-ARCC), which is making progress on risk assessment tools, modelling of future risks, and compilation of historical data.

Technical upgrades would ensure current data collection and monitoring systems are in line with global standards and user needs. For example, AGRHYMET reported the need to optimise its rainfall

Observation Network with a 10% error margin to be able to provide consistent information to users (i.e., farmers, herders, etc.). Currently, data collection and information systems in many countries are widely regarded as too weak for their intended purpose (ACMAD, 2017). Relatedly, a recent WMO monitoring survey showed that 54% of the surface and 71% of the upper air weather stations in Africa did not report data (WMO et al., n.d.). In addition, funding from development partners tends to be fragmented and neglects the issues of larger systems architecture and sustainability (WMO et al., n.d.). Ongoing programmes should help to address these limitations, however. For example, the World Bank/GFDRR Africa Hydromet Program intends to modernise 15 countries' hydrological and meteorological services and systems and the four RCCs, by strengthening regional Disaster Risk Management Information and Communication Systems – progress on this should be tracked and used to report on P1 R-6 in the coming years.

Despite progress made in the last decade in Earth system models, in-situ observations remain a critical challenge. Massive divestment in the financing of national statistics and monitoring systems has been reported as a major drawback for surveillance at the regional level, particularly in regard to the food security situation (SWAC/OECD interview, 2021). However, governments with limited budgets are currently unable to finance robust observation and statistical monitoring systems and secure them for the long term. Structural, stable and consistent support for the institutions in charge of collecting and monitoring in-situ information should be strengthened, particularly in conflict areas. The specific incentive structures to motivate this change will be context-specific, but they could include awareness-raising of the economic benefits of improved decision-making as a result of greater coverage and quality of risk information, and enhanced decision-making with limited resources, particularly where effective decisions lead to better livelihood and welfare outcomes for citizens, which may in turn improve state–society relations.

It remains difficult to obtain a clear understanding of regional capacity needs with respect to risk assessments and surveillance. While a multitude of investments are being made in hazard-specific risk assessments, these are largely borne from individual projects and they rarely, if at all, contribute to a regional pool of data and evidence on hazards, threats and risks. Moreover, there is a wealth of risk information that remains unpublished or under-disseminated, leading to substantial duplication in the general descriptions of the context, with less consideration for how individual investments could contribute to building the body of knowledge about risk trends in the region. Efforts towards interoperability of data repositories, such as that by the Global Risk Assessment Framework (GRAF), are useful but at present are far removed from the collection, storage and sharing of data in the ECOWAS region. Donor and implementer commitments to addressing this issue, perhaps by designing a set of guiding principles to which agencies and donors commit, would be a useful step in the right direction. And in addition, adherence to the AfSTAG guidelines on minimum standards and best practice for data collection and use would be of value (Senior Expert Consultation, 2021).

Significant political hurdles to sharing sensitive risk information remain, particularly related to conflict and insecurity. However, addressing this is likely to require diplomatic engagement beyond the remit of most Sahelian National Disaster Management Authorities (NDMA), as well as the engagement of civil protection and ministries responsible for defence, foreign affairs, home affairs and security; these could be coordinated via existing political groupings such as ECOWAS and the G5. Incentives from donors through funding for integrated systems and programming could also be helpful in this regard, to encourage operationalisation of the humanitarian–development–peace

nexus. Such incentives may help encourage governments and development partners including UN agencies to move beyond organisational silos.

Since the 2015 baseline, the number of EWS (operational or under development) at the regional level has increased. While it is beyond the scope of this assessment to conduct a region-wide mapping of EWS, it should be noted that the range of initiatives is so vast that it is extremely difficult to get a real sense of the coverage, quality and gaps in multi-hazard risk assessment for the Sahel region. Those in operation currently include *Cadre Harmonisé*, ARC tools such as the Africa RiskView, FANFAR, WMO Climate Risk and Early Warning Systems (CREWS), the Water Disaster Platform to Enhance Climate Resilience in Africa (WADiRe-Africa) and GMES & Africa. Given that it is likely each initiative undertook its own mapping prior to commencement, an amalgamation of such information would be extremely useful to help ECOWAS, the AUC and Member States to better understand the volume and diversity of current projects – and, importantly, opportunities for synergy and collaboration. This would be particularly valuable given that many challenges remain, including the existence of multiple EWS at various levels and in different sectors that are not coordinated, national sovereignty issues in relation to cross-border early warnings and systems, and more (Senior Expert Consultation, 2021). There is some progress already in this regard: for example, an ongoing assessment of the state of multi-hazard EWS in Africa and the development of an institutional framework is underway by the AUC and the United Nations Development Programme (UNDP) (UNDP email exchange, 2021). This could offer valuable insights into the barriers and opportunities for developing such a system across the region, and the necessary foundational work – including, for example, the establishment of a continental multi-hazard EWS situation room that is currently being considered by the United Nations Office for Disaster Risk Reduction (UNDRR) with funding from the Government of Italy (UNDP email exchange, 2021).

To date, many initiatives have been identified by this assessment, all aimed at improving risk surveillance (improvement of risk analysis, development of climate services and EWS, etc.). However, the limited capacity of countries to utilise that information slows decision-making mechanisms at the regional level, so that early warning information rarely translates into concrete action. Greater attention to the connections between component parts of an effective disaster risk management (DRM) system is required, with specific attention to uncovering barriers and opportunities to enable greater linking of risk information to action, learning and adjustment.

Similarly, despite the vast array of ongoing initiatives on risk mapping and monitoring, challenges remain in how to effectively coordinate all initiatives, how to ensure interoperability between databases and monitoring systems, and how to enhance coordination, analysis and dissemination to improve the quality of information provided to users. This, in turn, raises questions about how to best establish operational mechanisms that allow the exchange of information on disaster risks and how risk information enters the decision-making system of users to promote sustainable development (UNDP email exchange, 2021).

Recommendations

Continental level

(P1 C-1) Establish guidelines for the surveillance of continental risks.

(P1 C-1) A set of good practice guides could be devised to support the development of interoperable, accessible and open access data collection, repository, monitoring and analysis systems. The

International Science Council (ISC), together with the AfSTAG and UNDRR GRAF team, would be well placed to lead or support regional partners in this endeavour. The guides could be developed through a collaborative process, based on a robust assessment of current levels of interoperability and the barriers, drivers and incentives for change. Organisations working to develop existing or new means of data collection – including donors with encouragement from the OECD, implementing agencies with encouragement from donors, and academics with encouragement from the ISC – should be mobilised to sign up to the principles. These principles and guidelines could support the AfSTAG guidelines on minimum standards and best practice for data collection and use (Senior Expert Consultation, 2021).

(P1 C-3) Map risk assessment and analysis approaches and methods.

(P1 C-3) While there does not seem to be a centralised inventory of approaches and methods used for risk assessment and analysis, many mappings have been undertaken as part of individual projects or investment scoping exercises. It would be valuable for these to be placed in a repository within PreventionWeb – all authors should be responsible for sharing their inventories with the platform and held to account through their funders.

(P1 C-4) Establish an interactive knowledge-sharing platform with a library of risk assessment and analysis methodologies.

(P1 C-4) Beyond an inventory (P1 C-3) or interactive knowledge-sharing platform (P1 C-4), methods such as those adopted by ARC, ILRI and the Red Cross Red Crescent Climate Centre should be encouraged to convene debates about the viability, effectiveness and use of different approaches and tools. The Understanding Risk conference is an obvious space for these, but effort could also be made to repeat such methodologies at the regional level, with Sahel and West Africa-specific debates to fully consider the challenges of harmonising multi-hazard data collection and analysis.

(P1 C-5) Evaluate risk assessment and surveillance gaps.

(P1 C-5) The AU PoA (P1 C-5) ambition to assess existing gaps with respect to risk assessments and surveillance could be undertaken as an annual synthesis exercise convened and published as a substantial input to the *Africa regional assessment report* (e.g., UNDRR, 2020a). The AfSTAG and ISC may want to consider being responsible for overseeing this process. At present, assessments of this nature are undertaken within individual donor scoping exercises or as part of foundational work within projects and interventions. Collating and synthesising the findings – with analysis by geography, hazard and a set of predefined risk metrics – would be valuable and ideally would help to reduce duplication in future studies of a similar nature.

(P1 C-6) Develop an action plan for addressing gaps in disaster risk assessment and surveillance data.

(P1 C-6) The product of recommendation P1 C-5 could inform the updating of a regional action plan for addressing existing gaps in disaster risk surveillance and assessment. Given that there is a plethora of plans at the continental and regional level to bolster capacity in hazard-specific ways, it may be useful to consider alternative formats for this Priority Activity. For example, rather than a traditional action plan describing new activities to be undertaken, the plan could be more useful if it catalogued existing commitments and ambitions, with guidance on gaps that remain, areas at risk of duplication, and a clear monitoring system for subsequent review processes. This would serve to

steer current and future investments, rather than seek to create new workload for continental- and regional-level DRR institutions.

(P1 C-7) Establish an African Science and Technology Group.

(P1 C-7) This Priority Activity has been achieved with the establishment of the AfSTAG. To enhance its status and reputation within the continent, the ISC may want to consider enhanced collaboration with the AfSTAG to provide a peer support function, to help connect the AfSTAG and its members to international scientific expertise, to share funding opportunities for the AfSTAG research priorities, and to coordinate exchanges and secondments between academics and scientists working within the disaster risk field in Africa, specifically the West Africa and Sahelian region.

Regional level

(P1 R-1) Undertake studies on new and man-made risks.

(P1 R-1) Despite the discourse of compound risks used within much DRR literature – including, for example, climate-related disasters, conflict and displacement – many of the initiatives that have emerged since the 2015 baseline focus on risks associated with droughts and (more recently) floods. Very few initiatives target new risks and man-made risks, or the intersection of threats and hazards within the frame of compound and cascading risks, as described in the *Global assessment report on disaster risk reduction 2019* (UNDRR, 2019). Member States, regional DRR stakeholders and UNDRR, in conjunction with the AfSTAG, could use the pre-existing *African regional assessment report* process (UNDRR, 2020a) to include a component in future publications specifically on new and emerging risks. This section could seek to highlight innovations in dealing with compound and cascading risks, as well as point to possible future scenarios – perhaps in collaboration with the Economist Intelligence Unit, in a similar vein to the Economist’s existing Future Outlooks. This could include for 2021/2022, for example, the impacts on disaster risk governance of digitisation and cyber security risks, pandemic threats and antibiotic resistance, and climate extremes and new patterns of human mobility.

(P1 R-2) Generate risk information packages for different cultural, gender and age groups.

(P1 R-2) In support of the implementation of the 2020 ECOWAS DRR GSAP (ECOWAS, 2020a) and Version 2.0 of the *Cadre Harmonisé* (CILSS et al., 2019), both of which actively seek to mainstream gender, specific effort is required to scale up capacity and action on gender-representative data. The lack of relevant gender-representative data in West Africa limits the full or effective integration and use of gender indicators into the *Cadre Harmonisé* tool, and will likely similarly impede the ECOWAS DRR GSAP (ECOWAS, 2020a). Building on ongoing work by UNDP in partnership with UN Women, UNDRR and Partners Enhancing Resilience for People Exposed to Risk (PeriPeri U) to collect gender and age disaggregated disaster data, each government and development and humanitarian stakeholder should be encouraged to identify the most viable means to enhance their own gender data collection and aggregation systems. This may involve, for example, utilising any interest – and possible access to financial resources – from climate funds and interventions, most of which include conditions on gender and social inclusion. Short online training courses, such as those already convened by the PeriPeri U platform and funded in part by UNDP on climate and disaster risk finance, could be trialled for raising awareness and capacity on data collection, aggregation and analysis of gender and social inclusion data.

(P1 R-3) Establish and strengthen an interactive knowledge-sharing platform on risk.

(P1 R-3) There is currently a plethora of well-established forums, networks and platforms for sharing DRR knowledge and experience, including, but not limited to, UNDRR Africa Regional Platforms, Understanding Risk conferences, and various knowledge hubs that are included in project proposals. There are also numerous climate-orientated networks and conferences that cover topics relevant to DRM. Because each operates independently, there would be value in the AU, UNDRR and the ECOWAS Humanitarian Affairs and Disaster Management Division playing a more advisory role, coordinating regular feedback from NDMAs and relevant government ministries and departments on their demands and requests for technical upskilling, and using this information to liaise with organisers to meet those needs. Although a small task, this could be extremely impactful given that, firstly, there is very limited capacity-building or career development budget (if any) within West African NDMA budgets, and secondly, the current trend is for forums and conferences to request submission of events based around a loose set of themes, rather than directly responding to current demand.

To encourage these spaces to become more relevant to ECOWAS and West African NDMAs and related sector specialists within ministries, better use needs to be made of these resources. For example, conference and network organisers may need to be willing to go back to basics in some sessions, rather than focusing on the latest high-tech science and innovation which, while important, often bears little relation to the level of technical capacity or knowledge needs of many Sahelian countries.

(P1 R-4) Develop regional multi-hazard EWS.

(P1 R-4) The AU PoA ambition to develop and review multi-hazard EWS would be well served by a two-pronged approach. First, building on the ongoing assessment of multi-hazard EWS in Africa by the Sahel Resilience Project, a centralised repository would be useful that catalogues EWS in operation with links to their project pages. This could be hosted on an existing platform such as PreventionWeb, with updates being the responsibility of each new funding stream/project or initiative. Each time a new EWS initiative begins in the region, the lead agency should be encouraged to upload any EWS mapping that they have conducted to inform their own project design – thus allowing others access and improving efficiency by avoiding repeated mappings with similar objectives. Second, UN agencies could consider leading a new initiative that aims to build on the sector- and hazard-specific systems that already exist, but which conceptualises and proposes new, innovative multi-hazard EWS to address the limitations of existing systems as identified in the *Africa regional assessment report* (UNDRR, 2020). These include the need to move towards addressing systemic risk, and the need to better link EWS to action, ‘paying attention to weak signals such as the accumulation of small threats’ (UNDRR, 2020: 5). The initiative should not seek to establish the EWS innovations (that would require much more significant stakeholder engagement, funding and buy-in), but should be regarded as a preliminary step towards encouraging greater attention to the innovations required to adequately address the 21st century risk landscape.

(P1 R-7) Enhance protocols for sharing cross-border risk information.

(P1 R-7) ECOWAS may want to consider issuing a directive to institutionalise the *Cadre Harmonisé*. This has been recommended by the RPCA and would commit states to creating, strengthening and sustaining national statistical analysis units in charge of implementing the *Cadre Harmonisé*. Formal

recognition at the regional level is regarded as crucial by interviewees, as it is the analytical tool that triggers the release of the Regional Food Reserve in times of regional food crisis.

Priority 2: Strengthening disaster risk governance to manage disaster risk

Progress and achievements

Continental and regional risk governance

Effective disaster risk governance at the regional and continental scale has long been recognised in global DRR frameworks as essential to ensuring that national efforts align and are mutually reinforcing, and that cross-border and regional risks can be addressed. To this end, the adoption of the AU PoA was a key milestone in the first 10-Year Implementation Plan, 2014–2023, of the AUC Agenda 2063 (AUC, 2015). The BDR-ARCC project played an active role in increasing visibility of the AU PoA and the Africa Regional Strategy for Disaster Risk Reduction (ARSDRR) (AUC et al., 2004), as well as linked commitments such as the Ministerial Declarations resulting from the regional convenings (see P2 C-4). As part of Result 1 of the BDR-ARCC project, the AUC convened a workshop in March 2019 to raise awareness of the PoA to heads of units responsible for DRR and National Focal Points (AUC email exchange, 2021). The biennial reporting process convened by the AUC also helps to popularise, monitor and provide an informal accountability mechanism to progress on the PoA (AUC, 2020; AUC email exchange, 2021). In addition, the International Day for Disaster Reduction was used as a key advocacy point for raising visibility, alongside the UNDRR Communication and Visibility Strategy (AUC et al., 2018). In 2021, The AUC will conduct a review of the PoA and make recommendations for revisions (UNDRR interview, 2021; UNDP interview, 2021).

The operationalisation of the AU PoA is guided by the PoA Operational Plan (AUC, 2018), which notes who is responsible for each major activity and deliverable. The AUC reports that ongoing assessments will inform the collective understanding of the roles, functions and mandates of regional stakeholders on DRR (as articulated in P2 C-3), such as one on the implementation of the Sendai Framework in the Sahel and an assessment of DRR legislative frameworks (AUC email exchange, 2021).

Several long-term processes, convening spaces and networks are in place to help convey the contents of the AU PoA and improve attainment of the targets and outcomes. This includes, for example, the biennial reporting by the African Union Commission, the Africa Youth Advisory Board (AYAB) regional platforms, technical groups such as the AfSTAG and importantly the Africa Working Group on DRR (AWGDRR), which is convened by the AUC with support from UNDRR.

By 2017, a DRR Unit within the AUC had been created (AUC email exchange, 2021; AUC et al., 2018), the AWGDRR had aligned the revised PoA to the Sendai Framework (AUC et al., 2018), and with support from UNDRR had enhanced engagement with RECs, including through sub-regional DRR platforms (AUC email exchange, 2021). At the continental level, Africa Regional Platforms and accompanying ministerial-level meetings have taken place, including: 1st African Ministerial Meeting, Nairobi 2007; 2nd African Ministerial Meeting, Nairobi 2010; 3rd Ministerial Meeting and 5th African Regional Platform, Abuja 2014; 4th Ministerial Meeting, Yaoundé 2015; 5th Ministerial Meeting and 6th African Regional Platform, Mauritius, 2016; Africa-Arab Platform on Disaster Risk Reduction, Tunis, 2018; the 2020 African Regional Platform was suspended due to the COVID-19 pandemic. The AWGDRR continues to help develop common positions for Africa at the continental and global high-level policy platforms, enabling African priorities and perspectives to be formally

recognised. It also has a mechanism to track government commitments, which are published in a biennial report (UNDP email exchange, 2021; AUC et al., 2018).

One of the main ambitions under Priority 2 of the AU PoA is to mainstream DRR across the AUC. The BDR-ARCC programme, funded by the EU and implemented by the AUC, UNDRR, AfDB and GFDRR, is the most relevant initiative here and reportedly strengthened the coordination capacity of the AUC by 2017 (AUC et al., 2018). In another recent success, the AUC has established an internal Inter-Departmental Working Group on DRR (UNDP email exchange, 2021). The Working Group, composed of designated departmental representatives, aims to oversee the mainstreaming of DRR across all AUC programmes and activities (AUC interview, 2021; AUC email exchange, 2021). Among the Working Group's first priorities is for it to play a key role in multi-sectoral coordination among the AUC departments in the ongoing efforts to develop a COVID-19 Recovery Framework for Africa.

The continental-level Priority Activities of the AU PoA also include the establishment of the AYAB, set up by the AUC (PeriPeri U, 2017). The AYAB DRR Board comprises 14 members, with intentional gender balance. Covering the Africa region and working on five priorities, the Board steers engagement of African youth into regional and continental DRR policy design, implementation and monitoring – including input into the review of the AU PoA and Sendai Framework (AYAB email exchange, 2021). The AYAB also collaborates with UNDRR, the AWGDRR, UNDP and the UN Major Group for Children and Youth (AYAB email exchange, 2021).

Regionally, efforts have been made to strengthen disaster risk governance. For example, the ECOWAS Commission established guidelines to strengthen DRR Platforms and worked with selected national platforms to pilot a series of capacity strengthening initiatives (UNECA, 2015), provided guidelines to Member States on DRR integration, and developed a Regional Disaster Risk Reduction Plan of Action (ECOWAS, 2016). As a result, ECOWAS is widely regarded as one of the more advanced RECs. Support for ECOWAS has been delivered under the BDR-ARCC project by UNDRR and GFDRR, which includes GFDRR support for coordination, policy and planning, and UNDRR support to sub-regional DRR platforms (AUC et al., 2018; AUC et al., 2019). Through the Sahel Resilience Project, ECOWAS with support from UNDP has initiated the work of updating its DRR Policy – which will instead become Regional DRR and Resilience Strategy for West Africa (UNDP email exchange, 2021; ECOWAS et al., 2019), aligning it with the Sendai Framework as well as the ECOWAS Programme of Action (2015–2030). Complementary initiatives within BDR-ARCC also support overall DRR capacity development, such as work by the AfDB to build the capacities of specialised National and Regional Climate Centres (AUC et al., 2019).

ECOWAS has made steady progress in establishing and sustaining structures and mechanisms for coordinating DRR at the regional level, by training Member State Focal Points on key DRR terms and methods (AUC et al., 2019). Other key regional mechanisms have been institutionalising DRR. For example, the Intergovernmental Authority on Development (IGAD) established a comprehensive DRR programme and Programme Management Unit (AUC et al., 2018). Recent efforts may also contribute towards P2 R-2. For example, in 2020, ECOWAS-UEMOA-CILSS created a Regional Task Force and Regional Emergency Action Plan to promote a coordinated approach to the COVID-19 pandemic and its impacts on food security and the risk of migratory locusts (SWAC/OECD and RPCA, 2020).

Looking ahead, ECOWAS does not plan to update the ECOWAS 2006 Policy for Disaster Risk Reduction (ECOWAS, 2006) but instead to develop a Regional DRR and Resilience Strategy for West Africa (UNDP email exchange, 2021). This will build on the 2006 DRR Policy, and other subsequent documents such as the AU PoA (AUC, 2017) and other strategies such as those focused on food and nutritional security from the Global Alliance for Resilience (AGIR) (UNDP email exchange, 2021).

Monitoring and reporting progress

In terms of tracking and reporting on progress at the continental and regional level, the AU PoA Monitoring and Reporting Framework defines the monitoring and reporting roles at various levels, including at the regional level (AUC email exchange, 2021). In complement, the BDR-ARCC project aimed to improve monitoring and reporting capacity, and to establish a standardised reporting system for the AU PoA (AUC et al., 2018). This format has been used within the publication AUC et al. (2018) covering the period 2014–2017 and the 2018 Annual Report (AUC et al., 2019), and the biennial report for 2015–2018 (AUC, 2020). Results are presented in the High-Level Ministerial meetings on regional DRR progress (see P2 C-4). Furthermore, the BDC-ARCC Programme Steering Committee and AWGDRR provide a platform for sharing progress reports on the status of PoA implementation wherein the AUC and RECs (including ECOWAS) discuss the priorities for the coming period and agree on action points that are tracked in subsequent meetings (AUC email exchange, 2021). Under the BDC-ARCC programme, the AUC conducted missions to Member States and RECs to monitor the implementation of the AU PoA, including to Sierra Leone in 2019 (AUC email exchange, 2021).

Other publications providing insight into progress in the region include the continental-level *Disaster risk reduction in Africa: status report 2015* (UNISDR, 2016) and the *Global assessment report on disaster risk reduction 2019*, which includes citations from the region (UNDRR, 2019). Many key informants also referred to the various Capacity for Disaster Reduction Initiative (CADRI, n.d.) assessments as key processes and reports that comprehensively describe DRR capacity within and beyond UN agencies – reports which have been drawn upon heavily throughout this assessment.

The region is also engaged in global initiatives such as the Sendai Framework Monitor (n.d.) and the GRAF (PreventionWeb, n.d.). The GRAF aims to inform decision-making around risk reduction by ‘synchronize[ing] data, methods, models, insights, practical tools and incentives in open collaboration in order to enable real risk reduction in a complex world’ (PreventionWeb, n.d.). It aims to provide decision-makers with the means to ‘..improve the understanding and management of current and future risks, at all spatial and temporal scales and across all relevant time periods, to better manage uncertainties and mobilise people, innovation and finance’ (UNDRR, 2018: 5). The Sendai Framework Monitor, on the other hand, allows Member States to customise targets and indicators for reporting, and receive training on reporting, and should eventually provide an online platform for viewing data and analytics on progress by country. The annual reporting is intended to feed into the tracking of DRR-related indicators of the Sustainable Development Goals (SDGs). Despite significant progress on the global establishment of the Sendai Framework Monitor (n.d.), however, as of March 2021, none of the seven focus countries of this report have accessible data on the online monitoring system.

Regional and transboundary risks

The AU PoA regional-level priorities include the ambition to develop and implement a common understanding and approach to addressing regional and transboundary disaster risks. To this end,

regional declarations (such as those prepared for the Africa Disaster Risk Reduction Platforms and Ministerial Conferences), strategies and programmes of action, along with West African Member States being signatories to the Sendai Framework, help to reaffirm a common understanding of disaster risk, alongside the newly updated hazard terminology and classification (ISC and UNDRR, 2020), which states have reportedly said they will endorse (Senior Expert Consultation, 2021).

Many hazard-specific mechanisms and initiatives address regional and transboundary risks. Longstanding initiatives such as the Support to Administrative Capacity Building (*Programme d'Appui en Renforcement des Capacités de l'Administration*), created in 1984, continue to enhance diagnostic capacity, forecasting and coordination through the *Cadre Harmonisé* (validated in 1999). The Programme currently comprises over 120 stakeholders (SWAC/OECD interview, 2021; SWAC email exchange, 2021). Specific sub-regions, such as the Lake Chad Basin region, are the focus of a vast number of humanitarian, climate, development and peace initiatives, which contribute in different ways to the reduction of disaster risks – though not always explicitly. Existing projects relevant to DRR include the Lake Chad Basin Commission (LCBC), and the BIOPALT project convened by the Food and Agriculture Organization and UNESCO, which aims to safeguard hydrological and biological resources in the Basin and to build transboundary management capacity alongside an early flood and drought warning system (UNISS, 2019). With increased interest from donors on the Lake Chad Basin region, calls for greater understanding and action on transboundary issues are likely to increase over the coming years.

There are also several regional initiatives that aim to improve ecosystems critical for transboundary DRR, including on water resources management, desertification and natural resource governance, and agricultural productivity and biodiversity. Examples include:

- Under result 2 of the BDR-ARCC programme, a transboundary water resources management framework was developed by ECOWAS (AUC email exchange, 2021).
- In 2015, in line with its investment plan for the LCBC, AfDB approved the Programme for Rehabilitation and Resilience Building of the Lake Chad Basin (PRESIBALT). PRESIBALT aims to tackle desertification and natural resource governance challenges, restoring the Basin's ecosystems and rehabilitating their productive capacities (Banque Africaine de Développement, 2018).
- In 2021, the World Bank plans to invest more than US\$5 billion in restoring Africa's drylands, improving agricultural productivity and preserving biodiversity in 11 countries including in the Sahel (G5 Sahel, 2021).
- Other investments include the PROGREEN mechanism, a World Bank trust fund, to support the cessation of land degradation through a US\$14.5 million investment in five Sahel countries: Burkina Faso, Chad, Mali, Mauritania and Niger (G5 Sahel, 2021).

Knowledge sharing and capacity-building

Since the Sendai Framework implementation period began, several initiatives have sought to strengthen regional mechanisms for the exchange of risk information. This includes, in 2016, the establishment of the Africa-Caribbean-Pacific (ACP)-EU regional platform for knowledge exchange on DRR. Regional Focal Points for DRR – including from ECOWAS and IGAD – have access to Capacity4DEV, an open platform that encourages exchange of documents, technical guidance, events and more (GFDRR, 2017). ACP forums are convened on the margins of the Global Platforms on Disaster Risk Reduction (GPDRR, 2017; 2019).

Similarly, in terms of inter-RECs' exchange of lessons and experiences, since the 2015 baseline, this ambition (P2 R-4 of the AU PoA) has been orchestrated around key outputs such as the AU PoA monitoring biennial reports, as well as pre-conferences organised prior to the African Regional Platforms and Ministerial Conferences (AUC email exchange, 2021). Although these were temporarily postponed due to the pandemic, such mechanisms should resume when it is safe to do so.

Significant effort has also been put into briefing, soliciting feedback, and providing technical guidance on the transition from the Hyogo Framework monitoring to the Sendai Framework Monitor, including specialised sessions for 47 African DRR Focal Points at the 2016 Africa Regional Platform (AUC et al., 2018). UNDRR has also liaised with regional and national statistical organisations to align reporting on the SDGs and the Sendai Framework Monitor (AUC et al., 2018). During the 2017 Global Platform on Disaster Risk Reduction, 86 African delegates participated in a working session of the Sendai Framework Monitor, with financial support for 68 delegates provided by UNDRR (AUC et al., 2018). Other specific training on monitoring has taken place, such as for DRR Focal Points in Mauritius, Nigeria and other countries, and the AUC Training of Trainers in 2017 (AUC et al., 2018).

A specific West Africa workshop was convened by the AU-ACP programme for high-level decision-makers, where they were exposed to 'important information regarding their commitments to international reporting against standardised indicators, the key themes of the Sendai Framework, the fundamentals of probabilistic risk profiling' (AUC et al., 2018: 39).

Finally, several initiatives aimed at strengthening coherence between disaster and climate mechanisms are also relevant to this Priority Area, such as the UNDRR efforts to develop comprehensive risk management approaches by linking DRR and climate change adaptation communities (UNDRR, 2020). This includes, for example, enhancing policy coherence between DRR strategies and the National Adaptation Plans, including indicators relevant to climate change adaptation in the Sendai Framework Monitor process, and enhancing coordination mechanisms between DRR, climate change adaptation and the SDGs (UNDRR, 2020).

Observations and recommendations

Challenges and barriers

Despite the progress described above, interviewees raised concerns about the scale and pace of DRR mainstreaming and disaster risk governance maturity. The AUC reported that progress in mainstreaming DRR across the AUC is ongoing, although challenging and slower than expected. The ECOWAS DRR Policy (ECOWAS, 2006) is outdated and still reflects the Hyogo Framework (ECOWAS et al., 2019); though efforts are underway to update this. As of 2019, 18 of 55 states had aligned their DRR policies and strategies with the Sendai Framework, suggesting much further work is required on this Priority Activity (ECOWAS et al., 2019).

Overall, it has been difficult to ascertain what level of monitoring has been undertaken for the implementation of the AU PoA and Sendai Framework at the country and regional level. Most key stakeholders interviewed were unclear on the status of current monitoring and reporting processes or where to find the latest data on progress. This is despite efforts such as BDR-ARCC producing a standardised reporting system for the AU PoA, working sessions convened for Focal Points on the Sendai Framework Monitor, and West Africa workshops by AU-ACP to sensitise decision-makers on

the international standards for reporting. The AUC biennial report (AUC, 2020) does help in this regard, being a public document that reports progress on the Sendai Framework targets and PoA additional targets; however, it does not go into detail at the country level on the PoA Priority Activities. For monitoring the AU PoA, one limiting factor may be that the PoA Operational Plan (AUC, 2018) includes only generic names of stakeholders such as 'RECs, AUC, Member States' – more specificity would be helpful to increase accountability for who should be doing what, and by when.

It is widely recognised that further technical staff are required to accelerate integration of DRR across regional, cross-sectoral development and humanitarian mechanisms, so expanding the human and financial resources of the AUC and ECOWAS DRR technical capacity would be worthwhile. This is particularly necessary to support Member States less engaged or unconvinced about the need for action on DRR, including in contexts of conflict.

To deliver the current Priority Actions, significant investment of financial and technical capacity and political backing is needed to support the AUC's Interdepartmental Working Group on DRR. Achieving progress on mainstreaming DRR across AUC departments and sectors should have an amplifying impact on future progress and enable better adoption of risk management across the region. Where it remains difficult to convince departments/sectors of the value added, bringing in peer experts from other RECs could be a useful way to encourage greater enthusiasm for the initial investment of time and resources that are required for integration of risk management approaches.

At the 2015 baseline, studies on the status of Africa's National Platforms – including ECOWAS states – found them 'adequate' in terms of addressing national risks yet 'low on average' in capacity. Prior to the baseline, UNDRR undertook capacity strengthening initiatives at the national and regional level for DRR Platforms (UNISDR, 2014). However, the conclusion was that 'the current manner in which National Platforms are set up might not be the most efficient way to securing national ownership and leadership of DRR, implying that their concept could be revisited' (UNISDR, 2014: 35). The findings of the seven countries assessed in this report support this conclusion, particularly for contexts such as Chad, where risk management is prevalent but the discourse and organising structure of DRR do not gain the traction desired by regional, continental and global DRR stakeholders, suggesting that alternative (e.g., networked) approaches may be required (see Peters et al., 2019).

While great progress has been made in institutionalising a regional risk governance mechanism for food and nutrition security, especially through the RPCA, governance at national levels is insufficient to action the required risk management protocols. Governance issues in disaster risk preparedness, prevention and response are intrinsically linked to the general governance issues that countries face. Certain limiting factors were raised during the interviews, including the influence of uncoordinated initiatives of external financial partners and a crucial lack of financial resources, particularly in a context of growing conflicts (notably the fight against terrorism, which tends to concentrate government interventions and funding towards short-term actions). Many national structures and institutions responsible for DRR (including Sendai Framework Focal Points and national DRR platforms) remain insufficiently financed or with adequate technical capacity, and still need sustained support. Dominant guidance on what constitutes effective disaster risk governance is generally one dimensional; a range of approaches to strengthening disaster risk governance is required, to more directly address the different stages of governance maturity within a country.

The *Cadre Harmonisé*, while highly regarded for the acceptance of its diagnostics, engagement of African leadership, coordination and political buy-in, can still be strengthened (SWAC/OECD interview, 2021). Overall, interviewees were concerned that despite many projects mentioning transboundary issues around pastoralism, conflict, food insecurity and population movement, there was a lack of real progress in developing protocols for sharing cross-border risk information and in developing and actioning transboundary risk management plans (UNDP interview, 2021; UNDRR interview, 2021).

Despite numerous new and ongoing initiatives focused on specific hazards, the most promising initiatives – such as on food security – still require technical and financial support. Furthermore, interviewees raised concerns about the fragmentation of effort due to the new and parallel climate financed initiatives that have proliferated in recent years.

The coordination of disaster risk prevention, management and response is limited by the difficulties encountered by countries in aligning their policies with the Sendai Framework and in mainstreaming DRR at all levels (national, regional and local) and in a cross-sectoral way. This is reflected, for example, in the number of contingency plans that are not yet adapted to the realities of evolving situations (such as changes in the climate, political or governance contexts). However, most countries still lack a robust climate and disaster risk assessment with recommendations adapted to each sector – assessments that place as much emphasis on vulnerability and capacities as they do on hazard mapping. This hinders the implementation of appropriate contingency plans and the systematic integration of disaster risk prevention, management and response in national development programmes.

Finally, as the COVID-19 response has revealed, there remains a need to strengthen regional coordination to prepare for and respond to intersecting risks, for example where COVID-19 and food insecurity intersect, or where natural hazard-related disasters are occurring in conflict-affected contexts (see Peters, 2019). While the compartmentalisation of risks/hazards reflects the sectoral way in which government departments operate, countries should undertake risk assessments and devise recommendations based on a more robust understanding of how those risks intersect. For example, even though the NDMAs often do not have a remit to work on conflict, they should be informed about the intersection of disaster and conflict risks (Peters, 2019), so that DRR can be extended to conflict-affected areas. The same is true of the intersection of COVID-19 and food insecurity, for example.

Priorities of the AU PoA for the regional level include a focus on regional and transboundary risk management. Although many initiatives are regarded as working across multiple countries, it is difficult to decipher which have a genuinely regional component; that is, actively working through regional institutions and/or bringing multiple states together to address regional risks.

Despite steady progress (see above), concerns remain around DRR mechanisms and structures for coordination, even for well-regarded mechanisms such as *Cadre Harmonisé*. More needs to be done to commit Member States and, while coordination may be satisfactory at the regional level, national-level governance is largely lacking (except perhaps in the case of Niger) and better coordination and harmonisation of information is needed (SWAC/OECD interview, 2021).

Where coordination mechanisms require strengthening, many interviewees stressed the need to sustain technical and financial support to existing structures, rather than creating ‘ad hoc’

mechanisms, as the region already has many initiatives of varying success (SWAC/OECD interview, 2021). Some recent efforts, such as the establishment of the Regional Task Force and Regional Emergency Action Plan for COVID-19, have received criticism. Despite good intentions, the COVID-19 response plans were largely developed without adequate coordination with food resilience plans, despite the projections on low agricultural production in 2021 and corresponding food insecurity (SWAC/OECD interview, 2021). This indicates that, while progress in coordination-building for longstanding initiatives is evident, new threats/risks and the complexity of coordinating risk reduction and management of complex risks remain a challenge.

Recommendations

Continental level

(P2 C-1) Mainstream DRR across AUC departments.

(P2 C-1) A dedicated programme of support would be helpful to enable the AUC to convene and make active the newly established Interdepartmental Working Group on DRR, to pursue the ambition to mainstream DRR across AUC departments. The programme of support could include a secondment or funding of additional staff (from another region/intergovernmental entity) who can chaperone the process and ensure that the first year of the Working Group is run proactively, with clear coordination, governance and administrative functions. Should hesitancy or lagged progress on mainstreaming persist, a short independent study could be commissioned to delve into the individual barriers, opportunities and incentives for change within each AUC department – as other banks and donors have undertaken when trying to accelerate DRR uptake across departments (see Peters (2021), for example).

(P2 C-2) Establish a DRR Coordination Unit within the AUC; (P2 C-8) Implement a programme to propagate the ARSDRR and AU PoA.

(P2 C-3 and P2 C-8) This report makes several recommendations on how to improve the AU PoA in terms of content, layout and accompanying operational plans (see Chapter 12). Regarding the latter in the West Africa and Sahelian region, it would be beneficial for the AUC, AWGDRR, ECOWAS and relevant Member States to detail what the West African contribution to those continental targets should be. This would entail clearly describing the actors, timeframe, specific tasks and monitoring processes that need to take place to cumulatively achieve the continental Priority Actions described within the AU PoA. The West African and Sahelian contribution could then be embedded into the workplan of the ECOWAS Humanitarian Affairs and Disaster Management Division.

(P2 C-4) Convene biennial Africa Regional Platforms for DRR.

(P2 C-4) Efforts by the AU, UNDRR and the AWGDRR to convene an African Regional Platform and Ministerial Conference for 2021 are ongoing; high-level Member State attendance is paramount given that the platform provides a space for reflection, development of common positions, and collation of progress against the Sendai Framework, prior to the Global Platform on Disaster Risk Reduction scheduled to take place in Bali in May 2022. UNDRR and the Government of Indonesia could prioritise ensuring that the Global Platform has technical capacity to enable remote as well as in-person attendance, noting that the impact of the COVID-19 pandemic may still prevent travel to/from Sahelian countries in May 2022. Regardless of the feasibility of travel, ECOWAS could consider convening events in each country as part of a ‘Global Platform remote access roadshow’. This could take the form of hiring a small conference venue, ensuring there is live coverage of the

Global Platform formal and side event sessions, with breakout spaces for African-focused parallel discussions and, importantly, rooms set aside with reliable internet connection to allow speakers to join sessions remotely. Doing this now would help to ensure that African delegates and representatives are included in session proposals and can attend regardless of travel restrictions or financial impediment.

(P2 C-5) Implement programmes to strengthen DRR capacity of regional bodies, Member States and other stakeholders.

(P2 C-5) Within the AU PoA at the continental level, there is an ambition to design and implement programmes to strengthen DRR capacity at regional and national levels. This remains relevant. Specifically, there remains a need for technical and development partners – including, but not limited to, the AUC, UNDRR and UNDP – to continue supporting the technical capacity of the ECOWAS Humanitarian Affairs and Disaster Management Division. This could entail enhanced career development through specialised technical training; enabling greater political analysis to better understand the drivers, barriers and opportunities for enhancing DRR uptake within ECOWAS; and financial resources to alleviate pressure and enable flexibility in approaches and priorities according to need.

(P2 C-5) There remains a need for technical and financial partners including donors and the UN to work in collaboration with the ECOWAS Humanitarian Affairs and Disaster Management Division to support capacity strengthening of NDMA and national DRR Platforms (as detailed in this report in the country sections). Rather than taking a standardised approach, alternative versions of disaster risk governance mechanisms could be effective – which may or may not include DRR Platforms. Research in Chad, for example, revealed that a networked approach may be more politically astute, with a greater coordination rather than convening role played by stakeholders interested in pursuing DRR (see Peters et al., 2019). UNDP could consider working in partnership with the Swiss Development Cooperation (SDC) and the French Development Agency (*Agence Française de Développement*, AFD), together with other donors, to access funding to initiate an innovative process that brings together a diverse set of DRR academics, policy-makers and operational agencies to brainstorm alternative approaches to DRR coordination and governance arrangements, including, for example, focused on financially constrained settings, contexts where central government is in flux, and contexts of armed or violent conflict (as is the case for many of the Sahelian countries in this study).

(P2 C-6) Develop guidance to align national and regional DRR programmes to the Sendai Framework.

(P2 C-6) The timeframe for completion of P2 C-6 was 2017. Progress has been made in aligning some national and continental DRR strategies, policies and plans of action with the Sendai Framework – including at the regional level through ECOWAS aligning its Plan of Action (ECOWAS, 2016; ECOWAS et al., 2019). However, the ECOWAS DRR Policy (ECOWAS, 2006) is still outdated and based on the Hyogo Framework (ECOWAS et al., 2019). ECOWAS do not plan to update the policy but instead develop a Regional DRR and Resilience Strategy for West Africa (UNDP email exchange, 2021). Accelerating the process of devising this strategy to obtain alignment with the Sendai Framework would be particularly valuable. It would also help to create a short guidance note summarising the key documents, policies, strategies and plans of action that exist at the regional level. This may help

to address regional DRR stakeholders' concerns that it is exceptionally difficult to determine with any clarity what DRR policies and strategy documents exist and which remain active.

(P2 C-7) Establish regional monitoring mechanisms to track Member State progress on the Sendai Framework and AU PoA.

(P2 C-7) There are many component parts to the ongoing efforts to establish and maintain regional monitoring systems on the implementation of the AU PoA and Sendai Framework (detailed above). Rather than providing recommendations, this report endorses the following: 1) continued support is required to ensure the Sahelian states can effectively, robustly and sustainably input data into the online monitoring system of the Sendai Framework Monitor; 2) it would be valuable for UN funds, programmes and specialised agencies to continue to support the CADRI partnership (CADRI, n.d.), including providing increased financial support to the CADRI Partnership Secretariat to conduct follow-up visits to the region to track progress on recommendations made in previous assessment processes; and 3) donors could consider providing financial support to UNDRR to support the development and production of subsequent *Africa regional assessment reports*, noting their value to regional stakeholders – but also the need to extend their focus to encourage greater thinking on the interconnectivity of risks (see recommendation P1 R-4).

(P2 C-7) There is a need to ensure that the core regional, continental and global DRR stakeholders better coordinate on the design and delivery of monitoring and assessment processes. For example, this study has found evidence of potentially duplicative assessments undertaken by consultants, or at least parallel processes, that arguably would have been better if financial resources and technical expertise were combined. This may (although not necessarily) have resulted in some degree of cost saving but, more importantly, could have allowed more comprehensive cross-disciplinary teams to be formed to undertake monitoring and reporting processes.

(P2 C-8) Implement a programme to propagate the ARSDRR and AU PoA.

(P2 C-8) As staff turnover can be high in many agencies across the region, the BDR-ARCC programme, together with the AUC, may want to consider repeating some of the previous outreach activities that sought to popularise the ARSDRR and AU PoA, as well as the Sendai Framework. These can be coupled with refresher courses/short training sessions for previous attendees to ensure they are up to date with the latest iterations of the ARSDRR and AU PoA, and the rapidly evolving monitoring mechanisms that are used to track progress (see P2 C-7).

Regional level

(P2 R-1) Develop a common approach to address regional and transboundary disaster risks.

(P2 R-1) Interviewees highlighted the need to develop protocols for sharing cross-border risk information and to develop and action transboundary risk management plans. As a precursor to this, a study could be commissioned to explore transboundary DRM across the region, tapping into emerging interest on transboundary climate risks as a potential funding source. The study should seek to move the conceptualisation of transboundary risks forward, beyond a focus on borderlands or simply multiple countries and towards a more nuanced understanding, as has emerged in the climate risk space: 'Adopting a transboundary view of climate risk, which explicitly recognises the interconnections between people, ecosystems and economies in a globalised world, changes the scope and nature of the adaptation challenge and creates opportunities to reinvigorate international cooperation on adaptation' (ODI, 2021). A practical component of the study could seek to document

existing protocols for information-sharing in the disaster and crisis space, and explore protocols in the non-disaster space that could inform the development of new information-sharing plans across the ECOWAS and Sahelian countries. Experiences of information-sharing protocols related to pandemic threats could be a useful starting point, as decision-makers will see the relevance of such mechanisms, which can then be expanded to other hazards in due course.

(P2 R-1) The ISC in combination with AfSTAG and other regional academic entities could offer a series of technical sessions to disseminate the latest hazard terminology and classification list (ISC and UNDRR, 2021), which is intended to guide the monitoring and reporting of progress against the Sendai Framework. If the new terminology list is adopted by states in the region and increasingly used as the main source of hazard definitions, future work on regional and transboundary information-sharing will have a commonly agreed set of hazard definitions and classifications.

(P2 R-1) A short study could be commissioned to determine the extent to which actions contributing towards DRR outcomes are embedded within the plethora of projects at the regional level that are framed as responses to addressing climate, security or conflict risks. This includes, but is not limited to, the suite of projects in the Lake Chad basin region, including those labelled as climate security, stabilisation, peace and conflict management/resolution and related terms. It is possible that some interventions and investments that do not use the language of DRR or natural hazard-related disaster risk might be contributing to aspects of the AU PoA and Sendai Framework goals and outcomes, but they are being missed because they are framed under different terms and discourses. Such a study could also pave the way for advocating for greater and more explicit inclusion of DRR and disaster risk governance institutions and mechanisms into current and further work, as all will aim to address risk management in some form.

(P2 R-2) Sustain structures and mechanisms for coordinating DRR.

(P2 R-2) While there is interest and some effort to make existing DRR coordination structures and mechanisms more readily able to address multi-hazard risks, the current governance arrangements for hazards remain siloed. Building on the work by the AUC's Inter-Departmental Working Group on DRR to assess disaster risk governance in the region, and the development of a COVID-19 Recovery Framework for Africa, it would be valuable to devise a set of guidance notes on how to design and deliver new hazard-/threat-specific action plans and coordination mechanisms in ways that build on pre-existing disaster risk governance arrangements. Taking the example of the COVID-19 response plans (which reportedly did not sufficiently consider pre-existing food security early warning and response plans), a diagnostic could be undertaken to explore what could have been designed better, and the changed actionable outcomes as a result. This could serve as an illustration for the guidance on better linking hazard-/threat-specific action plans in ways that move towards a more comprehensive management of co-locating and/or intersecting risks.

(P2 R-3) Strengthen regional risk management information exchange mechanisms.

(P2 R-3) Building on recommendations at the country level, including in Chad, for example, there would be value in systematically pursuing information exchange between those working on natural hazards and those on stabilisation and climate security. Existing initiatives such as the UN Climate Security Mechanism provide one space for this to be pursued; and in doing so DRR actors should seek to demonstrate the potential value of DRR as a robust and pragmatic contribution to address stabilisation and climate security risks – where they relate to natural hazards – in insecure contexts.

Consideration should also be given to establishing information exchange mechanisms with those focused on peace, to support the expansion of DRR operations in contexts where peacebuilding efforts are underway. Commissioning a think piece on the links between DRR and peace and stability would be useful prior to establishing information exchange mechanisms. The findings could be shared with the AWGDRR and G5 members in particular – where so much of the climate security work is concentrated.

(P2 R-4) AUC to strengthen inter-REC exchange of experiences and lessons learnt.

(P2 R-4) An explicit regional-level sub-group could be formed under ECOWAS to address disaster risks in contexts affected by active armed and violent conflict. Ideally, this should be replicated at the continental level under the auspices of the AUC; the AUC's Inter-Departmental Working Group on DRR could be a good home for such a thematic sub-group given that it already includes membership from other departments including those related to peace and security. Given the additional challenges that violence and conflict present to effective DRM, this would be extremely valuable. To inform discussions within the sub-group, it would be valuable to commission a short study to outline the lagged progress on DRR in conflict-affected contexts, the financial and human cost of disaster impacts over the past three to five years, and the impediments conflict presents to the roll-out of normative approaches to disaster risk governance. As well as serving as a space for experience and lesson-sharing, the group should aim to devise a typology to articulate the range of institutional set-ups, incentive structures and realistic outcomes within prescribed timeframes for disaster risk governance in conflict and post-conflict contexts. This should then be used to moderate the expectations of national, regional and continental DRR targets and goals for conflict-affected areas, to be better aligned with the realities on the ground.

(P2 R-4) AUC to strengthen inter-REC exchange of experiences and lessons learnt; (P2 R-5) Develop harmonised mechanisms to identify ecosystems critical for transboundary DRR and modalities for their protection.

(P2 R-4 and P2 R-5) Technical DRR partners in collaboration with ECOWAS and the AUC could consider utilising an adapted version of the Food and Nutrition Security Governance tool designed by the RPCA to help countries establish their own self-assessment of institutional capacity to respond to food and nutrition insecurity crisis. Although the tool only covers food security risk, a broad self-assessment exercise that takes a multi-hazard approach at the regional level may greatly help to highlight difficulties and shortcomings in the governance of risk prevention, management and response, and to better grasp the disparities that exist within countries. This could inform a more detailed plan for facilitating inter-REC exchange of experience and lessons. Use of an adapted version of the tool should be complemented by independent evaluations aimed at supporting improvements in self-assessment, noting the challenges of validating self-assessed data (as is the case for the Hyogo Framework for Action and Sendai Framework reporting). Facilitating annual cross-country peer review focused on transboundary risks or multi-hazard risk management approaches, as has been tested in other themes, could be worthwhile, allowing lessons to be learnt by neighbouring government/technical counterparts (rather than extracted by external agencies and consultants).

Priority 3: Investing in DRR for resilience

Progress and achievements

Integrating DRR into development frameworks

One of the AU PoA Priority Actions (P3 C-2) is to integrate DRR into AU-led development frameworks, plans, policies and projects. The global frameworks developed throughout 2015, including the Sendai Framework, Paris Agreement on climate change, and SDGs, reference one another. In terms of monitoring and reporting progress, the Sendai Framework and disaster-relevant SDGs are directly linked. This has often transferred to the framing of subsequent continental and regional strategies and plans, with recognition of the various frameworks and of the importance of tackling Sahelian disaster risks to achieve broader socioeconomic and political goals. For example, action on disaster risk is recognised within the AUC Agenda 2063 (AUC, 2015). Overall, between 2015 and 2018, the biennial Africa progress report found an increase in the integration of DRR into sustainable development and climate strategies at the national level in the ECOWAS region (AUC, 2020).

This relates, in part, to the regional-level ambition (P3 R-2) to develop guidance on the links between DRR and development frameworks. The AUC has been actioning this since the 2015 baseline, including by creating an additional target on integrating DRR into development frameworks as part of the PoA (this target), and providing guidance on implementation at various levels (AUC email exchange, 2021). Looking ahead, the Interdepartmental Working Group on DRR will facilitate mainstreaming of DRR into AU development projects and programmes, while from 2021 the AUC plans to develop guidelines and provide training and technical support for mainstreaming (AUC email exchange, 2021). As a related point, in March 2021, the AUC reorganised the department responsible for DRR and committed dedicated financial and technical resources to DRR (AUC interview, 2021; UNDP email exchange 2021).

Disaster risk financing

The first continental ambition of the AU PoA is to establish a funding mechanism for DRR (P3 C-1). For context, this stemmed from the 2nd African Ministerial Conference declaration, wherein Member States called for a 'study into the establishment of a regional funding mechanism for disaster risk reduction, which allows Member States to access existing, and future, regional and global funds for climate change adaptation and disaster risk reduction' (UNISDR, 2014). This was coupled with increasing engagement of finance ministers in DRR discussions in Africa, calling for 'institutionalizing effective financial and other instruments such as strategic grain reserves, budgeted contingency funds as well as through sharing risk across [sub]regions' (UNISDR, 2014: 39). The timeframe for P3 C-1 was 2019, and no single continental funding mechanism for DRR currently exists (AUC interview, 2021). There are a range of multilateral and bilateral funding initiatives, however, each with different timeframes, groupings of donors, and varying objectives related to risk management and risk reduction.

This assessment did not attempt to conduct a full mapping of all investments in West Africa. The most relevant advancements in relation to the Priority Activities are described below. Most interviewees noted confusion around the volume of different funds in the West Africa region, each focusing on different hazards/threats. There is a need to undertake a comprehensive mapping of each, and to search for opportunities for synergy and perhaps even mergers, to move towards a more multi-hazard approach (AUC interview, 2021; GNDR interview, 2021).

At the time of the 2015 baseline, it was reported that African governments were not adequately budgeting for disaster risks, nor engaging with risk transfer mechanisms despite the ‘viability of proven risk transfer mechanisms (such as market related insurance)’ (UNISDR, 2014: 40). Although there were repeated calls, including at the African Regional Platforms and Ministerial Meetings, for Member States to ‘increase their investments in disaster risk reduction through the allocation of a certain percentage of their national budgets and other revenue dedicated to disaster risk reduction’ (UNISDR, 2014: 39). Despite coming close, such commitments were not made (UNISDR, 2014). Response funds exist (although the funding of these varies greatly) but many aspects of longer-term DRR, such as preparedness or recovery, have been woefully underfunded, with funding largely external grant assistance or short-term budgetary allocations (UNISDR, 2014).

Prior to the commencement of the Sendai Framework, plans were underway to strengthen risk financing in the region. This included, for example, the BDR-ARCC Result 5 Africa Disaster Risk Financing (ADRF) Initiatives, which aimed to:

Support the development of multi-risk financing strategies at regional, national and local levels to assist African countries to make informed decisions, to improve post-disaster financial response capacities and mitigate the socio-economic, budgetary and financial impacts of disasters in African countries (GFDRR, 2016: 10).

Since then, a monitoring and evaluation framework has been developed to track progress on the ADRF Initiative (GFDRR, 2016). Preparatory missions were carried out by the ADRF team with dialogues on risk financing in 11 countries across the continent, while diagnostic reports on disaster risk financing were produced at the country level. Within the Sahel, Mauritania, Niger and Senegal were supported in the development of their financing strategies for risks, which consisted of: (1) identifying the countries’ needs and priorities; (2) turning these priorities into action strategies by bringing together elements of disaster risk financing; and (3) designing and implementing risk financing policies, instruments and strategies (GFDRR, 2019).

The ADRF Initiative also convened an Understanding Risk and Finance Conference in Addis Ababa in 2015, bringing together continent-wide stakeholders including from AfDB, ARC, the private sector and insurance with the intention of mobilising interest and action on solutions for risk assessment and financing (GFDRR, 2016). The ADRF Initiative plans to develop adaptive shock-responsive safety net programmes in the Sahel in coordination with the UK government-funded Adaptive Safety Net programme (AUC et al., 2018).

Africa Risk Capacity (ARC)

Good progress has been made under ARC. All seven Sahelian countries are members of ARC, a specialised agency of the AU that was established to support Member States to utilise weather surveillance (through its Africa RiskView weather risk quantification software) to disburse funds to countries affected by disasters, starting with drought and expanding over time to a broader range of hazards. Intended to reduce Africa’s reliance on external assistance, ARC aims to use ‘modern financial mechanisms like risk pooling and risk transfer to establish the contingency financing facility’ (ARC, n.d.c: 4). Since 2014, 62 insurance policies have been signed between ARC and Member States to a value of US\$101.7 million in premiums paid for insurance coverage of US\$722 million (ReliefWeb, 2020). In 2017, ECOWAS and ARC signed an MoU, facilitating closer collaboration on political, technical and financing grounds, and bolstering the ambitions outlined within the ECOWAS

Policy for Disaster Risk Reduction (ECOWAS, 2006) (ARC, 2017). The partnership also creates linkages with the regional Agricultural Policy and ECOWAS's climate change adaptation initiatives (ARC, 2017). To date, all Sahelian countries are members of the ARC, and a number of countries (Burkina Faso, Chad, Côte D'Ivoire, Mali, Mauritania, Niger and Senegal) have been part of the ARC's risk pool covering the 2019/2020 agricultural season (ARC, n.d.b).

A notable new scheme for disaster response funding is the ARC Replica Coverage, set up to enable UN agencies and other humanitarian actors to match ARC country insurance policies and thereby extend or replicate insurance coverage. This enables insurance policies to be used 'more cost-effectively through participation in ARC's government-led risk management system while doubling the coverage of climate risk insurance. Countries lacking financial and operational capacity for greater coverage would benefit from UN Agencies and other humanitarian actors providing both increased insurance-based funding and scaled, coordinated, and timely operational execution' (ARC, n.d.d). To date, Burkina Faso, Mali, Mauritania and Senegal, among others, are benefiting from the ARC's Replica coverage. There are plans to expand this scheme to other countries, including Niger (ARC interview, 2021).

ARC is also developing several plans to support enhanced risk transfer. For example, ARC aims to extend its risk insurance coverage and to target flood-related disasters (in addition to drought-related disasters), and to set up the Extreme Climate Facility (not yet operational). Next steps include the finalisation of the structure's governance, the development of financial vehicles and implementing financial instruments in the market, and development of guidelines for engagement of countries (ARC interview, 2021). Issues to be resolved include finalising the index underpinning the catastrophe bond and confirming the relationship between the Extreme Climate Facility and ARC (ARC interview, 2021).

Climate risk financing

It is widely regarded that financing for DRR is underestimated, particularly where climate change adaptation activities contribute to DRR, or DRR is mainstreamed under sectoral budgets; this could be positive, in that more funding could be being allocated to DRR than is currently tracked. The influx of climate funding in the Sahel has helped to bolster the risk financing landscape across the region, with increased funding channelled through various multilateral and bilateral initiatives. Most ECOWAS countries have increased their international cooperation, with organisations including the World Bank, European Union (EU), UN agencies, the German Corporation for International Cooperation (*Deutsche Gesellschaft für Internationale Zusammenarbeit, GIZ*) and the International Federation of Red Cross and Red Crescent Societies (IFRC) (ECOWAS, 2019a) providing budgetary support, specific project-based funding for DRR and climate change adaptation, and DRR capacity-building (ECOWAS, 2019a).

Overall, in recent years sub-Saharan African countries have increasingly sought support for their climate risk finance agendas, giving rise to numerous activities in the agricultural, social protection and financial sectors (GFDRR, 2019). The ClimDev Special Fund, for example, was established in 2009 by the African Development Bank (AfDB) as the investment arm of the Climate for Development in Africa Program. Also, the Green Climate Fund (GCF) supports national and regional programmes on a range of topics related to DRR and climate change adaptation, including:

- the Africa Integrated Climate Risk Management Programme: Building the resilience of smallholder farmers to climate change impacts in 7 Sahelian Countries of the Great Green Wall (GGW), covering Burkina Faso, Chad, Mali, Mauritania, Niger and Senegal (GCF, 2021)
- the Programme for Integrated Development and Adaptation to Climate Change in the Niger Basin (PIDACC/NB), covering nine countries (including Burkina Faso, Chad, Mali, Niger and Nigeria) (GCF, 2018a)
- the Africa Hydromet Program – Strengthening Climate Resilience in Sub-Saharan Africa in Burkina Faso and Mali (GCF, 2016)
- Transforming Financial Systems for Climate, covering 17 countries (including Nigeria and Burkina Faso) (GCF, 2018b)
- The ECOWAS-CILSS region has so far mobilised US\$3.8 billion of investments through projects approved by the GCF (of which one-third are financed directly by the Fund, and two-thirds are mobilised by other donors, national budgets or private investment) and about US\$98 million from the Adaptation Fund (ECOWAS, 2020b).

Threat and risk financing

Threat- and location-specific initiatives are also ongoing, such as the Oslo Humanitarian Summit, which sought to mobilise international funding for humanitarian response in Nigeria and the Lake Chad region (Vivekananda et al., 2019). These are not discussed in detail here, as these and other Lake Chad Basin discussions are linked to DRR yet largely orientated around crisis response to conflict and insecurity. Notably, efforts such as the Oslo Humanitarian Summit include commitments to ‘consult on a wider range of preventive and stabilisation measures to enable development’ (Vivekananda et al., 2017: 30); conversations from which DRR champions are often absent but would be well placed to make contributions.

The ADRF Initiative plans to develop adaptive shock-responsive safety net programmes in the Sahel in coordination with the UK government-funded Adaptive Safety Net program (AUC et al., 2018). To this end, ADRF supported an ‘analysis of available information systems and explored the feasibility of converting monitoring information into impact forecasting and monitoring systems’ beginning in Niger, with similar mechanisms planned for Mali and Senegal (AUC et al., 2018: 67).

The ADRF Initiative has also supported a range of financial risk management approaches at the country level, including contingency funds, conditional loans, agriculture insurance markets and disaster risk financing strategies. It has not been possible to ascertain the extent to which these initiatives have specifically benefited the Sahel region, although ADRF did plan to develop adaptive shock-responsive safety net programmes in the Sahel (AUC et al., 2018). This is now in question, however, due to significant reductions to the UK ODA.

Another initiative of note is the Africa Adaptation Initiative (AAI), launched in 2015 and currently in Phase 3 and running for the 2020–2030 period (AAI, 2020). In order to deliver on the ambition for Africa to adapt to climate change, including climate-related disasters, AAI aims to raise awareness of climate adaptation options through knowledge management, capacity-building and resource mobilisation, as well as promoting cooperation across scales and effective monitoring and evaluation (AAI, 2020). Critically for the AU PoA, AAI aims to address the adaptation financing gap. The AAI 2020–2025 Roadmap outlines ambitions to source US\$1 billion for climate information services, and a doubling of adaptation finance access and mobilised by African countries by 2025 (AAI, 2020). In

support, UNDP's Insurance and Risk Finance Facility (IRFI) is providing capacity-building on risk transfer and insurance (UNDP email exchange, 2021).

Public health systems

The regional-level Priority Activities (P3 R-4) of the AU PoA include an explicit focus on public health systems and management. Progress has been made, both as a legacy from the impact of Ebola in the region, and more recently the COVID-19 pandemic – both additional challenges alongside the pre-existing biological hazards prevalent across the region. As this assessment was conducted during the pandemic, the landscape for action on health risks was constantly in flux. Rather than attempt to document that progress here, therefore, this should be discussed in forthcoming evaluations, synthesis and progress reports, which will likely be released in 2021/2022 by the World Health Organization (WHO), UNDRR and others.

Despite recent challenges, there has been notable progress in the ECOWAS region. For example, the West African Health Organisation (WAHO) Strategic Plan 2016–2020 (WAHO, 2016) includes strengthening ECOWAS Member States' capacities for implementation of prevention and control, and implementation of the International Health Regulations (IHR) (RCDSC-ECOWAS, 2019). In 2017, the ECOWAS Assembly of Ministers of Health agreed a roadmap for One Health, with WAHO and the Regional Centre for Disease Surveillance and Control (RCDSC) liaison officers, to help link regional entities and enhance surveillance and preparedness for biological hazards (RCDSC-ECOWAS, 2019).

Nigeria, which developed its own approach to establish a functional One Health platform, has also made good progress. Nigeria (like Côte d'Ivoire) has institutionalised its platform and developed political and strategic documents for its functionality. It has been reported that, despite the challenges to maximising functionality and ensuring the sustainability of institutions created to tackle outbreaks (Fasina and Fasanmi, 2020), enormous progress has been made that could be replicated in other ECOWAS countries (ECOWAS, 2019b). In addition, while management of transboundary public health risks is still weak, capacity improvements at the regional level have been reported, notably in the context of Ebola. In 2021, 'surveillance and screening are being stepped up at border crossing points and in Ebola high-risk communities. Rapid response teams were being deployed to border areas to support preparedness plans of health districts, and testing and treatment facilities scaled up' (WHO, 2021).

Observations and recommendations

Challenges and barriers

At the 2015 baseline, the funding landscape for disaster risk financing was discouraging; DRR investment in Africa was widely regarded as unavailable and dominated by donor investment in response and relief (UNISDR, 2014). Despite the challenges in tracking investments, Global Humanitarian Assistance reported that funding levels appeared to be relatively low (UNISDR, 2014). According to statistics on DRR funding of recipients of bilateral funding from OECD Development Assistance Committee (DAC) donors between 2006–2010, the top five recipients were African nations, although none were the seven focus countries of this study (UNISDR, 2014).

The continental-level priorities are yet to be achieved. Although aspects of continental funding mechanisms for risk transfer exist – such as ARC, for example – and despite the ambition in the AU PoA, there is currently no single continental funding mechanism for DRR. The AUC continues to undertake studies to lay the groundwork for this (AUC interview, 2021). Moreover, despite the

inclusion of DRR in Agenda 2063 (AUC, 2015), in practice, lack of funding for DRR, including routine budgetary support for the key DRM agencies, presents a significant hinderance to the mainstreaming of DRR across sectors and to the coherence between sustainable development and risk reduction actions. Interviewees also reported insufficient funding as the primary reason for lack of implementation of the AU PoA (Senior Expert Consultation, 2021).

Across the continent, domestic resources for DRR are underfinanced. Most countries do not have dedicated DRR budgets and disbursement of funds is 'irregular and unpredictable' (ECOWAS, 2019a). Data from 16 African countries found an average of just 4% of funds from the national planned budgets goes broadly to DRR, with only 1% going to DRR-specific interventions (UNDRR, 2020). Guidelines are needed to improve investment coordination across sectors, to offer incentives to catalyse private DRR investment, and to create financial instruments to mobilise domestic and international resources for DRR (UNDRR, 2020).

Some aspects of risk financing, such as the integration of DRR into financial instruments, remain poor, with the ECOWAS region reporting 'little or no progress' in this regard from 2015 to 2018 (AUC, 2020).

Most interviewees were unclear on the volume of different funds in the West Africa region, as each project, investment or initiative focuses on different hazards/threats. There is a need for a comprehensive mapping of each, to identify opportunities for synergy and to move towards a multi-hazard approach (AUC interview, 2021; GNDR interview, 2021). Many interviewees reported the lack of coordination between ongoing initiatives as a hinderance and a wasted opportunity for funding complementarity, information exchange and collaboration. Therefore, it is essential that emerging initiatives link to existing systems and structures, for better coordination of human, financial and technical/technological resources. The RPCA (n.d.) is currently working on mapping and generating information on who is doing what, when and where. Discussions are ongoing between ARC and the RPCA towards aligning or combining the *Cadre Harmonisé* and the ARC tools. Such work should be supported and extended to provide a framework for ensuring new investments and initiatives in the ECOWAS region are directly linked to ongoing efforts and accountable to avoid duplication of effort and to address any gaps identified (rather than presumed gaps).

The influx of climate finance has complicated the risk financing landscape in the region. Climate change adaptation investments are wide ranging across West Africa (see USAID (2018) for a list). The ECOWAS-CILSS zone 'is among the best in Africa in terms of mobilising funding. However, there are great disparities between countries' (ECOWAS, 2020b: 6). International resource mobilisation constitutes a significant challenge for the region, while domestic financing remains very modest, despite some recent initiatives developed, in particular the establishment of national climate funds (ECOWAS, 2020b). The GCF and the Adaptation Fund offer opportunities for financing disaster risk reduction projects and programmes, but this is often 'tempered by the complexity (perceived or real) and the length of their procedures' (ECOWAS, 2020b: 43). Moreover, multilateral and bilateral initiatives are often hazard-specific and timebound investments that operate as siloed projects. While climate finance 'readiness' – meaning the ability of recipient countries to access, absorb and effectively utilise climate finance – has been a focus of much attention, this remains a challenge for many Sahelian countries. For example, the Notre Dame Global Adaptation Initiative (ND-GAIN) Index for 2019 for readiness, which measures economic, governance and social readiness and the ability of a country 'to leverage investments and convert them into adaptation actions', finds our focus

countries for this report ranking as follows (out of 192 countries): Burkina Faso (joint 153), Chad (191), Mali (joint 153), Mauritania (117), Niger (135), Nigeria (187) and Senegal (127) (ND-GAIN, 2021).

Unfortunately, the persistent need for the mobilisation of humanitarian funding to deal with the Lake Chad Basin and other crises reveals how much still needs to be done in developing and actioning sufficient risk financing strategies that are capable of responding to the range of hazards and threats across the region.

The lack of accurate tracking of disaster risk financing should be addressed. Accurate estimations of DRR costs and impacts are needed to effectively devise disaster risk financing recommendations, and for donors and governments to undertake more informed resource allocation decisions. At present, there is ‘under-reporting on some indicators such as on total cost of DRR programmes and activities domestically funded and on percentage disbursement of DRR funds, suggesting limited capacities to monitor at country level’ (ECOWAS, 2019a: vii).

It is worth noting that the regional-level Priority Actions (P3 R-4) on strengthening health systems require further investment and development. Unsurprisingly, COVID-19 severely strained the ECOWAS countries’ health systems, exacerbated by previously low investment and low health staff to population ratios by WHO standards (CEDEAO, 2020). World average health expenditure as a proportion of GDP is 99.9% on average, with many of our seven focus countries falling below the sub-Saharan African average: Senegal (4.1%), Mali (3.8%) and Nigeria (3.8%) (CEDEAO, 2020). Under its Strategic Plan 2016–2020, WAHO sought to strengthen state capacity (WAHO, 2016). However, 11 of the 15 ECOWAS states to have undertaken Joint External Evaluations as part of IHR reported results showing low scores across the board, with most scoring two out of five in all areas and with the biggest gap in risk communication (RCDSC-ECOWAS, 2019). Furthermore, the One Health roadmap (RCDSC-ECOWAS, 2019) is a useful starting point, but to be fully effective it must be better linked to other sectors, including those associated with peace, security and humanitarian affairs (RCDSC-ECOWAS, 2019). Weak information-sharing between sectors has been reported to be responsible for lack of pro-activity of all sectors in emergency responses. In terms of resource mobilisation, in addition to challenges in accessing domestic budget and international funding, ensuring the efficient use of resources also remains challenging (ECOWAS, 2019b).

Recommendations

Continental level

(P3 C-1) Develop and establish a continental DRR funding mechanism.

(P3 C-1) A group of technical champions could be created to support the AUC to effectively scope, design and ultimately launch a continental funding mechanism for DRR. The champions would ideally be technical experts from existing fund managers, banks and donors with experience in setting up new funding mechanisms. Through pro bono support, this could include individuals from the World Bank and GFDRR, AfDB, the OECD Experts Group on Risk and Resilience, and representatives from selected UN programmes and funds. Using adapted versions of existing protocols and design templates from existing fund set-up phases (which could include new climate funds, for example), the AUC should be supported to create a strategic plan that will ultimately guide the design phase of the funding mechanism. Further support will be required to solicit funding and

ensure effective start-up – substantial further planning and technical support will be needed (but it is beyond the scope of this assessment to detail that here).

(P3 C-4) Enhance investment in disaster risk financing, transfer, insurance and risk-sharing and retention mechanisms.

(P3 C-4) Existing publications on disaster risk financing in Africa provide more specific recommendations that, if implemented, would help to enhance the risk financing landscape for the continent. These include, for example, recommendations to extend social safety nets in crisis situations (Beegle et al., 2018), and applying ideas from anticipatory action, forecast-based finance and early warning (Wilkinson et al., 2020) to the region. Under UNDP's current membership of the Risk-informed Early Action Partnership (REAP), new lessons and experiences will emerge throughout 2021/2022 that should be duly considered for their viability and applicability to the Sahelian and West African region. More recently, adaptations to existing social protection mechanisms in response to COVID-19 have been trialled (WFP, 2020) and warrant further exploration for their applicability across the Sahel and to address a broader range of threats. This requires specific further scoping, research and design work, which is beyond the parameters of this report.

Regional level

(P3 R-1) Align DRR with REC development frameworks.

(P3 R-1) While there has been progress in linking DRR to RECs' development frameworks (see Priority 2), interviewees reported that lack of funding was the main reason for the failure to implement the regional-level components of the AU PoA. The AUC is reviewing the PoA Operational Plan (AUC, 2018) in 2021 and it is recommended that the future iteration should be accompanied by a more detailed cost estimation down to the Priority Activity level, as well as an overarching fund mobilisation plan that strategizes how the minimum funds required to achieve the desired results can be secured. The AUC may want to include an estimation of new financing needs as well as in-kind support. Where activities can be embedded into existing multi-year programmes, these could be explicitly noted, and where funding shortfalls remain, brief funding strategies can be created to articulate the most viable donors, identify agencies responsible for approaching those donors, and consider the implications for achieving corresponding Priority Activities if funding cannot be found. This would enable donors and agencies designing new funds and projects to easily understand which areas of the AU PoA require finance and proactively integrate those aspects into their own business development processes.

(P3 R-1) Align DRR with REC development frameworks; (P3 R-2) Develop guidance on linking DRR and REC development frameworks at national and sub-national/local levels.

(P3 R-1 and P3 R-2) ECOWAS and the AUC should be provided with links to the existing guidance and technical literature on the integration of DRR into regional development frameworks and the cost-benefits of doing so – as exist from other regions – to support the continued integration of DRR into continental and regional development frameworks. The planned role of the AUC's Interdepartmental Working Group on DRR to facilitate mainstreaming may also benefit from technical support in making the financial case for integration, while the AUC's plans to provide training for mainstreaming in 2020–2021 may benefit from professional moderation and facilitation services, freeing up AUC DRR specialists to focus on devising advocacy messaging to AUC departments.

(P3 R-3) Promote public–private partnerships for disaster risk financing, transfer and insurance.

(P3 R-3) To date, DRR activities have been under-tracked and under-reported, which restricts capitalisation, sharing of experiences and synergies between ECOWAS Member States and RECs, thus limiting opportunities for better strategizing around disaster risk financing. The AUC and UNDRR at the continental level, ECOWAS at the regional level, and Member States at the national level, could track progress in the new Inter-Agency and Expert Group on Disaster-related Statistics (UN ECOSOC, 2021), which will explore and provide guidance on improving tracking and tagging of disaster-related expenditure. This, coupled with existing methodologies such as DRR and climate change adaptation Public Expenditure and Institutional Reviews (PIERS), as well as other capacity-building initiatives through the AAI, could be used to inform the development of Member State guidance on improving monitoring of disaster-related investments through domestic or external sources.

(P3 R-4) Develop regional cooperation to enhance disaster-resilient health infrastructure, public health systems and management of transboundary public health risks.

(P3 R-4) To encourage greater thinking and action on the intersection of risks, WAHO and UNDP may want to collaborate with other stakeholders to explore how the intersection of biological risks with natural hazards including climate-related hazards is creating complex risk landscapes in contexts affected by violence and conflict. It has already been noted that the One Health roadmap needs to be effectively linked to sectors associated with peace, security and humanitarian affairs (RCDCS-ECOWAS, 2019), and One Health (although this constitutes a plurality of approaches) lends itself well to UNDP's own risk-informed development approaches (Opitz-Stapleton et al., 2019).

(P3 R-4) An extensive review of One Health in sub-Saharan African countries has recently been released, which includes recommendations for strengthening One Health initiatives and funding mechanisms (see Fasina and Fasanmi, 2020). These could be prioritised for action – specifically those related to DRR – by DRR technical specialists at the national, regional and continental level, in collaboration with One Health champions including WHO and FAO, among others. DRR experts have a key role to play in addressing the disaster-related gaps, which include the fact that:

Preparedness and response to disease outbreaks, emergency interventions, disaster interventions and recoveries, policy development, advocacy, community engagement and monitoring and evaluation for One Health initiatives are dissimilar across African countries or are inexistent in some countries, especially those without external assistance to develop such interventions. Where these preparedness and response documents are available, they are often not tested or subjected to evaluations through drills, simulations, after-action reviews and other evaluation methods (Fasina and Fasanmi, 2020: 26).

If positive progress is made on these recommendations, space should be made to share lessons and experiences within the upcoming Africa Regional Platform on Disaster Risk Reduction convened by UNDRR. In turn, this would encourage the participation of health agencies in the regional platform, a welcome addition given the significant inclusion of health risks within the goals and targets of the Sendai Framework.

Priority 4: Enhancing disaster preparedness for effective response and to ‘build back better’ in recovery, rehabilitation and reconstruction

Progress and achievements

Preparedness and response capacities

Priority 4 begins with the ambition to support and coordinate effective disaster preparedness, response and humanitarian assistance (P4 C-1). Since the 2015 baseline, several mechanisms have been established to strengthen the continental and regional capacity to support and coordinate DRR and response interventions. Selected examples are summarised below.

ECOWAS has been proactive in strengthening institutional support for DRM, particularly regional flood management capacity. It has done this by organising several national events and workshops, ensuring stakeholder coordination and consultations, and promoting policy development and national DRM strategies. For example, in 2019 ECOWAS organised a three-day training workshop on flood forecasting and early warning in Lomé, Togo; also in 2019, ECOWAS and the West African Science Service Centre on Climate Change and Adapted Land Use (WASCAL) worked with the AGRHYMET Regional Centre in Niamey, Niger, to design training programmes and general policies for flood management; and in 2020 ECOWAS organised an e-learning course on the introduction to geospatial information technology applications, forecasting flooding and EWS in West Africa (GFDRR, 2020a).

The regional AU PoA ambitions include strengthening preparedness and response capacities and collaboration among Member States. To this end, several capacity-building activities have taken place since the 2015 baseline. For example, ECOWAS sought to support Member States to strengthen DRM systems through capacity-building activities in Burkina Faso, Cape Verde, Gambia and Guinea, and by providing training on post-disaster needs assessment (PDNA) methodology in some of these countries (GFDRR, 2018). There is also an ambition to strengthen implementation of existing frameworks. For example, there was a commitment in the 2017 annual consultation of the Regional Committee on Disaster Risk Management in West Africa, which took place in Liberia, to discuss the ECOWAS Humanitarian Action Plan 2018–2022, with the outcome to provide Member States with a framework on emergency preparedness and response to emergencies (no information has been found on the progress of this commitment). There have also been efforts to scale up capacity on specific sub-sets of society; for example, in 2018 ECOWAS and the United Nations Commissioner for Refugees (UNHCR) collaborated to scale up response capacity through a five-day emergency management training (ECOWAS, 2018).

The regional-level Priority Actions pay special attention to maritime disaster management (P4 R-8). At the time of the baseline, ECOWAS had an Integrated Maritime Strategy (EMIS), which was adopted in 2014 (ECOWAS, 2014) and aimed to strengthen the management of maritime disasters. In parallel, 22 Member States of ECCAS, ECOWAS and the Gulf of Guinea Commission (CGG) initiated the Yaoundé Process to ensure maritime security in the region (ECOWAS, 2014). This prompted the Inter-regional Network for the Gulf of Guinea (GoGIN) project (2016–2020), which covers 19 coastal countries from Senegal to Angola, and works in collaboration with ECCAs, ECOWAS and CGG to develop improved maritime information-sharing and support the implementation of national maritime strategies. GoGIN has, among other activities, set up courses in maritime security and has conducted practical exercises on illegal fishing, crisis at sea and pollution (GoGIN, n.d.). In addition, the GMES & Africa have been working on marine and coastal management across 14 countries in the

region, and the Regional Marine Centre delivers monthly physical oceanography bulletins, with information related to wave height and sea surface winds (GMES & Africa, 2019). It has been difficult to ascertain whether these initiatives are sufficient to address the current maritime disaster risks, however, and there is a disconnect between mainstream DRM actors and management of maritime risks.

In terms of regional policy development, in 2020 ECOWAS issued a Disaster Risk Reduction Gender Strategy and Action Plan (ECOWAS DRR GSAP 2020–2030) (ECOWAS, 2020a), which aims to help Member States build inclusive approaches to preparedness, response and recovery. While the Action Plan builds on the DRM activities agreed upon by Member States, the Strategy emphasises the need to ensure regional action is gender-responsive. This complements the ECOWAS Disaster Risk Reduction Plan of Action 2015–2030 (ECOWAS, 2016), which outlines activities and deliverables to be developed and implemented in alignment with existing ECOWAS, AU and international strategies such as the AUC Agenda 2063 (AUC, 2015), and the Sendai Framework for Disaster Risk Reduction (UNDRR, 2015).

The AU PoA commits to developing and operationalising guidelines on post-disaster response, recovery and reconstruction in conflict settings (P4 C-4). Since 2015, there has been limited progress towards developing such guidelines – although the UNDP report on this topic is notable (UNDP et al., 2019), interviewees were not able to report any concrete activities or outcomes for the operationalisation of conflict-sensitive PDNAs (Senior Expert Consultation, 2021). That said, several strategies and action plans have been developed in the Lake Chad Region’s conflict-affected areas. The best known are the Lake Chad Development and Climate Resilience Action Plan, developed by the Lake Chad Basin Commission in 2015 (Lake Chad Basin Commission, 2015), the AU’s Regional Strategy for Stabilisation, Recovery and Resilience of the Boko Haram-affected Areas of the Lake Chad Basin region (Lake Chad Basin Commission, 2018), and UNDP/UN OCHA’s Resilience for Sustainable Development in the Lake Chad Basin, released in 2018 (UNDP and UN OCHA, 2018).

The AU PoA also committed to developing approaches and measures for the management of cross-border disasters at the regional level (P4 R-1). To this end, on 17 March 2019 ECOWAS and AGRHYMET held discussions in Niamey, Niger, on possibilities for closer collaboration on flood forecasting and on weather and climate services; and in April 2019, in Dakar, Senegal, ECOWAS led a consultative meeting on a possible flood management strategy. As a result of the workshops and consultative meetings throughout the region, as well as an analysis of policies related to flood management at regional and national levels and a mapping of hotspots of flood-affected areas in West Africa, by 2020 ECOWAS had led and coordinated the development of a flood management strategy for West Africa. The first regional strategy of its kind, it will guide Member States in reducing the impact of floods and lead to the coordination of flood responses in the region (GFDRR, 2020b).

Food security risk management

Long-standing mechanisms for preparedness and response are in place for food security. The RPCA was established in 1984 following major droughts in the Sahel, where emergency response suffered from a lack of coordination. In 1990, the region adopted a Charter to improve coordination and the efficiency of food aid delivery (RPCA, 2012); the code of conduct fundamentally improved the way beneficiary countries and partners work together and formed the basis of the RPCA. Along with creating a shared diagnosis of the food security situation (see Priority 1), by pooling information

from existing sources (FAO productions, the Famine Early Warning Systems Network (FEWS NET) and the Food Security Cluster, etc.) the process also created the *Cadre Harmonisé* as a common tool for assessing the nutritional and food situation. Currently comprised of over 120 stakeholders, regional workshops are convened at regular intervals throughout the cropping season to analyse the state of agriculture and food security, considering the weather forecasts produced by NMHS (SWAC/OECD interview, 2021). Within the RPCA, the CILSS oversees the mobilisation of the Regional System for Food Crisis Prevention and Management and services (RPCA, 2012). This includes the annual organisation of regional technical consultations (March, June, September and November) on the food and agricultural outlook, the forecast results of the agropastoral campaign, and the food and nutrition situation. In addition, two political sessions (December and April) bring together Member States, during which the results and recommendations from the *Cadre Harmonisé* analysis are presented (SWAC/OECD interview, 2021; SWAC/OECD and RPCA, 2020).

Regional reserves are important mechanisms to mitigate or prevent food crisis when local stocks managed by communities, and national stocks managed by governments and partners, are insufficient. Since 2015, the EU has provided €56 million to the Food Security Storage Support project in West Africa, with the Technical Management Unit located in ECOWAS's Regional Agency for Agriculture and Food (CEDEAO, 2020). In 2019, the RRSA had a capital of 32,178.5 tonnes of cereals, which represented 95% of the target of 34,000 tonnes (EU funds) and 54% of the RRSA target (60,000 tonnes) (CEDEAO, 2020). The Regional Reserve is received, stored and preserved by national storage structures (Burkina Faso, Ghana, Mali, Nigeria and Niger) (CEDEAO, 2020). The decision to mobilise the Reserve is informed by the *Cadre Harmonisé* analysis and recommendations of the RPCA. During COVID-19, ECOWAS mobilised the Reserve to respond to food and nutrition insecurity in Burkina Faso, Mali, Niger and Nigeria. The decision for triggering the Reserve was informed by the *Cadre Harmonisé* analysis and RPCA recommendations (SWAC/OECD and RPCA, 2020). In addition, US\$1 million from the ECOWAS Humanitarian Emergency Fund has been mobilised to respond to the crisis (SWAC/OECD and RPCA, 2020).

Climate and hydrometeorological risk management

Other initiatives cover climatic hazards. The West Africa seasonal climate outlook forum (*Prévisions Saisonnières en Afrique de l'Ouest*, PRESAO) covering West Africa, Chad and Cameroon, has been re-named PRESASS, for the Sudano-Sahelian zone of Africa, from Cape Verde to Chad (ACMAD, n.d.). With AGRHYMET overseeing the development and dissemination of agro-hydro climatic forecasts, as well as advice for agriculture and water management, the ACMAD coordinates the forum. The forum draws up recommendations for humanitarian agencies, DRM agencies and civil protection departments of the member countries to strengthen the preparation and response to climatic hazards expected during the rainy season (ACMAD, n.d.).

There have also been collaborations between ACMAD and the IFRC, which agreed an MoU in 2009 that was updated in 2019 (ACMAD, n.d.). As part of this agreement, ACMAD and IFRC intend to develop and strengthen their collaboration to exchange meteorological information to update and implement contingency, relief, preparedness and rapid response plans to reduce disaster loss and damage in Africa.

There have been substantial investments in addressing climate fragility risks in the Lake Chad Basin region in particular. For example, the G7 and partners produced integrated regional risk assessments with illustrative examples of areas of engagement for promoting resilience and recovery in Lake

Chad, as well as guiding principles for effective management (Vivekananda et al., 2017; 2019). In 2018, the Heads of State of the G5 Sahel requested the Permanent Secretariat of the G5 Sahel (SPG5 Sahel) to launch, as a matter of urgency, quick-impact projects. The SPG5 Sahel subsequently launched a €266 million Emergency Development Programme with projects targeting the regions bordering the intervention zones of the Joint Force. This finances 20 projects that cover a range of sectors, including water and sanitation, agriculture and pastoralism, conflict prevention and social cohesion (G5 Sahel and Alliance Sahel, n.d.).

The importance placed on the improvement of water and flood management at the regional level is illustrated by the establishment of the West African Water and Sanitation Sector Monitoring and the Water Resources Coordination Centre (WRCC) Strategic Plan for 2018–2022 (GWP West Africa, 2019). The WRCC is responsible for monitoring and supervising ECOWAS water management activities, through the implementation of the Water Resources Policy for West Africa and its Regional Action Plan. The WRCC also aims to establish a Regional Water Observatory covering all 15 countries in the ECOWAS region, plus national Integrated Water Resources Management policies and strategic plans (GWP West Africa, 2019; OïEau, n.d.). After carrying out a feasibility study and an inventory of existing information systems in 2009–2010, the ECOWAS WRCC asked OïEau to create a pilot version of the Regional Water Observatory portal, involving 10 countries, including Burkina Faso, Mali, Mauritania, Niger, Nigeria and Senegal.

Biological and health risk management

The AU PoA aims to improve management of biological risks at the regional level (P4 R-9). Progress on strengthening the coordination of responses to biological hazards at the regional level is evident, most recently in relation to dealing with the COVID-19 pandemic.

[An] emergency meeting of West African Ministers of Health was held in Bamako, Mali on 14 February 2020, [during] which [the Ministers] agreed to: (1) strengthen coordination and collaboration among Member States on COVID-19 preparedness; (2) strengthen communication about the epidemic; (3) strengthen national capacities essential for diagnosis and develop a strategic plan for regional preparedness, including cost estimates, based on Member States' priorities; and (4) promote multisectoral national efforts based on a single health approach to reduce the impact of the disease; implement measures to ensure the availability of essential medical supplies, including laboratory equipment, and strengthen personal protection in the sub region (ECOWAS et al., 2020: 12).

The subsequent health response has been coordinated by WAHO.

To ensure economic stabilisation and recovery, at the Bamako meeting Ministers also agreed to:

(i) Facilitate and maintain the free movement of food within and between States of the Community while respecting health measures; (ii) Appeal to the international community to mobilize additional resources for the benefit of the Region to meet the economic and social challenges facing the States; (iii) Support the initiative of the African Union to negotiate with partners for the cancellation of public debt and restructuring of the private debt of African countries; (iv) Allocate as a grant of 8 million dollars to WAHO and plans to mobilize a stabilization fund with 40 million US dollars with Germany; (v) Encourage States to strengthen Research & Development in the pharmaceutical industry and to pool, to the extent possible, their purchases of equipment and drugs to combat COVID-19. In addition to setting up a

programme to support the pharmaceutical and health protection equipment manufacturing sector, whose production covered barely 20% of the region's needs; and (vi) Mobilize community mechanisms (Regional Food Security Reserve, Emergency Humanitarian Funds) to assist vulnerable people (ECOWAS et al., 2020: 12–13).

Such regional coordination enabled funding to be mobilised. This includes, for example, US\$20 million secured for the COVID-19 response in five Sahelian countries (Burkina Faso, Chad, Mali, Mauritania and Niger), from the AfDB, UNHCR and the G5 Sahel (UNHCR, 2020).

Building on a long history of dealing with biological hazards across the region, and previously reinforced capacity of biological risk management in the West Africa region, actions to address Ebola continue too. In 2021, this includes the scaling up of surveillance, screening, testing and treatment at Ebola facilities. Surveillance and screening are in place at border crossing points and in Ebola high-risk communities, with rapid response teams deployed to border areas to support the preparedness plans of health districts (WHO, 2021).

Early warning systems (EWS)

The AU PoA includes ambitions to establish regional EWS and to support the harmonisation and continuity of national EWS (P4 R-2). While it was not feasible nor the intention of this assessment to conduct a comprehensive mapping of all EWS, it is worth noting the following ongoing and planned initiatives, in addition to those mentioned in earlier sections (such as RPCA and *Cadre Harmonisé*):

- A number of services are under development at the regional level through the GMES & Africa programme, focusing on flood forecasting (Multi-Scale Flood Monitoring and Assessment Services for West Africa, MiFMAS), food security and ecosystem resilience (*Gestion des Zones Humides en Afrique de l'Ouest*, GDZHAO), and marine and coastal area management (GMES & Africa, 2019). The MiFMAS project covers five West African countries, including Burkina Faso and Nigeria; the GDZHAO project covers eight West African countries, including Burkina Faso, Mali, Niger and Senegal; the marine and coastal areas service under GMES covers all coastal countries of West Africa, including Mauritania, Nigeria and Senegal (GMES & Africa interview, 2021).
- The H2020 project FANFAR focuses on flood forecasting and covers 17 ECOWAS countries, including Burkina Faso, Chad, Mali, Mauritania, Niger, Nigeria and Senegal (EC, 2020).
- CREWS, which is still under development, aims to provide a severe weather, flood and climate forecast system for West Africa. The project covers 19 ECOWAS and CILSS Member States including Burkina Faso, Mali, Niger, and other countries in the region, and aims to achieve enhanced capacity by utilising regional centres to provide national-level provision of risk information and end-to-end early warning services (CREWS, n.d.).
- The WADiRe-Africa Project aims to increase flooding early warning and flood risk management, moving current practice from crisis management to a risk management approach. It covers the Niger and Volta basins and their related countries (including Burkina Faso, Chad, Mali, Niger and Nigeria) (AGRHYMET, n.d.).
- The satellite-based water monitoring and flow forecasting for the Niger River Basin (SATH-NBA) project aims to install a satellite-based water monitoring and flow forecasting system for the Niger River Basin (NBA), as well as to reinforce the capacity of the NBA and national technical experts to use real-time hydrological data to monitor the impact of drought on water resources and inform agriculture and livestock activities in the Basin countries (SATH-NBA, n.d.). Currently,

climate information newsletters and bulletins are created and shared through the NBA website to inform decision-making, national meteorological and hydrological services and DRM agencies.

- The ECOWAS Secretariat and WASCAL, a large-scale research-focused climate service centre, launched a collaboration for research on policies and flood management in June 2018. This led to a pre-feasibility study on a regional flood early warning mechanism (GFDRR, 2018). Through master's and doctoral programmes, WASCAL is also working with 10 West African countries, including Burkina Faso, Mali, Niger, Nigeria and Senegal, to carry out research and provide science-based advice to policy-makers and stakeholders on climate change impacts, mitigation and adaptation measures (WASCAL, 2020). It also established a Competence Centre with support from the German Federal Ministry of Education and Research, to enhance science-based advice to policy-makers on climate change impacts and adaptation measures (WASCAL, 2020).
- ARC developed a model to anticipate drought-related risk (targeting food insecurity) and is currently working on a flood model. All seven Sahelian countries are Member States of ARC. ARC's risk pool covering the 2019/2020 agricultural season included 11 countries, including Burkina Faso, Chad, Mali, Mauritania, Niger and Senegal (ARC interview, 2021). To date, Burkina Faso, Mali, Mauritania and Senegal are benefiting from the ARC's Replica Coverage (see P4 C-1).

Related to the above, discussions are ongoing between ARC and the RPCA to determine whether it may be feasible to align or combine the *Cadre Harmonisé* and ARC tools: (1) *Cadre Harmonisé* classification (which is technically supported by AGRHYMET) could be integrated into some ARC indicators; (2) ARC could provide indicators that would feed into the *Cadre Harmonisé* and inform the trigger for the Regional Food Reserve (ARC interview, 2021). In addition, discussions are planned to determine if and how ARC could complement and support the financial component of the Regional Food Reserve (SWAC/OECD interview, 2021).

Progress has also been made in the ECOWAS Early Warning and Response Network (ECOWARN), an 'observation and monitoring tool for conflict prevention and decision-making' (ECOWARN, 2017). In 2019, a workshop for ECOWAS Member States aimed to 'evaluate the ECOWARN data collection and validation process and measure their responsiveness quotient while comparing the existing ECOWARN system and products with similar ones at the regional, continental and global levels' (ECOWAS, 2019c). Numerous recommendations have been made to develop ECOWARN, particularly the early action component (see Gnanguênon, 2021). ECOWAS has expanded ECOWARN to provide disaster early warning, with indicators developed for natural hazard monitoring including climate change, natural hazard-related disasters and food security (ECOWARN, 2017). However, more research is needed to better ascertain to what extent analysis of disaster and conflict risk are brought together and offer potential to support the implementation of the AU PoA (including P4 C-4).

Knowledge networks and partnerships

Since the 2015 baseline there has been notable progress towards strengthening continental and regional networks and forums for knowledge-sharing and innovation (P4 C-2). Continuing efforts in sharing knowledge on preparedness, response and recovery include: the African Ministerial Conference on Meteorology (AMCOMET-4) in 2019, which aimed to mobilise investment in NMHS (ReliefWeb, 2019); the Understand Risk conference for West and Central Africa, which focuses on the hydrometeorological sector and explores new partnerships developing between public, private and academic partners in an attempt to develop more innovative models for sustainable business

(GFDRR, 2020a); and the first GMES & African Forum, launched in 2018, which explored potential for enhanced cooperation and synergy between EO initiatives across Africa (Africa News, 2019). At the regional level, AGRHYMET organised numerous workshops throughout 2019–2020 on the ECOWAS Integrated Regional Agricultural Information System Project, the SERVIR programme, the SAWIDRA project and the CASIERA-TA project (AGRHYMET, n.d). Other initiatives for harnessing and sharing knowledge are intervention-specific. For example, to improve its functioning, the RPCA has developed an online tool that geolocates and describes hundreds of projects and aims to identify best practices (SWAC/OECD interview, 2021). Similarly, the ECOWAS Secretariat organised a range of capacity-building and knowledge strengthening activities in the field of food risk – including, in 2018, a collaboration to enhance research on DRR policies and flood management with WASCAL and, in 2019, with AGRHYMET on the possibilities for closer collaboration on flood forecasting and weather and climate services (GFDRR, 2019).

In terms of partnerships, in 2020 ECOWAS signed an agreement with UNDP to implement the three-year project ‘Strengthening capacities for disaster risk reduction and adaptation for resilience in the Sahel region: fostering risk-informed solutions for sustainable development’. The project will support the implementation of the ECOWAS strategy to reduce climate vulnerability and build community resilience, as well as the implementation of the Sendai Framework in the region (ECOWAS et al., 2019). From 2016 to 2020, ECOWAS benefited from World Bank funding for strengthening ECOWAS DRR coordination, planning and policy advisory capacity, as part of the ACP-EU cooperation programme BDR-ARCC (World Bank, 2016). As of April 2020, Burkina Faso, Mali and Niger had received capacity-building support in the form of training under ‘Component 1: Strengthen DRM policies and institutions at national and regional level’, which has been extended to Nigeria and Senegal (World Bank, 2016).

In another illustration of regional collaboration, ECOWAS Member States have worked together in response to the COVID-19 crisis. In March 2020, the agriculture ministers of ECOWAS, UEMOA and CILSS approved a Regional Emergency Action Plan (SWAC/OECD and RPCA, 2020) and Regional Task Force to strengthen the coordination and monitoring of action to mitigate the effects of the COVID-19 pandemic on food and nutrition security. The Regional Emergency Action Plan (SWAC/OECD and RPCA, 2020) defines the measures to be taken to support the efforts of Member States at regional level; it is too early to source evidence on the progress of this Plan.

In parallel, to support the Regional Task Force, the CILSS Executive Secretariat and the SWAC/OECD Secretariat, co-facilitators of the RPCA, set up a technical unit and an online platform for sharing information on the progress of the crisis, national response plans, and regional and international initiatives (SWAC/OECD and RPCA, 2020). Initial indications are that the Regional Task Force requires further strengthening to be sustained over the longer term.

Observations and recommendations

Challenges and barriers

Although the development of EWS in West Africa has been notable, many challenges remain, including inadequate coordination or links to decision-making mechanisms – meaning early warning information does not always translate into action. Furthermore, while national authorities are mandated to action early warnings, their effectiveness relies on data exchange between neighbouring countries, RECs, ACMAD and the AUC, which is repeatedly reported as not always effective.

Despite the many initiatives related to risk assessments and EWS that have emerged since 2015, it remains difficult to assess to what extent such efforts help to prevent disaster loss and damages, and if action is effectively triggered based on newly available data. While monitoring, reporting and evaluations are conducted on a project/investment basis, research to comparatively explore the value-added of different EWS investments and their viability for replication across Sahelian countries would be beneficial. Such an assessment could then explore the viability of replicating more advanced systems, such as anticipatory action or forecast-based financing (Wilkinson et al., 2020) from other countries/regions to the ECOWAS region.

The assessment has revealed that countries that have subscribed to the ARC have demonstrated improved response capacity to risks. However, the weak link between existing EWS and contingency planning and lack of adequate pre-positioned resources are significant and hamper the effectiveness of such mechanisms (ECOWAS, 2019a). To date, the share of intervention coverage against total disaster funding requirements ranges from less than 10% to 30%, with the remainder largely sourced through the UN appeals process, which itself is increasingly unable to meet the full identified needs (ARC, n.d.d.).

The RPCA constitutes the main regional mechanism for providing food assistance in the event of a crisis. However, despite its relative success in the physical component (food security storage), financial sustainability remains a challenge. In complement to food storage, it remains the intention to mobilise a financial component that would allow funds to be transferred to countries in the event of an emergency, which would be sourced from Member States and regional funds rather than external sources. Although the financial component was activated in 2016, and Nigeria has received some funds, this is largely not operational (RPCA interview, 2021). ECOWAS is in early discussions with ARC on the viability of pooling resources to create the financial component of the regional reserve (RPCA interview, 2021). Yet further integration of the mechanism into national response plans is required, along with budget allocation from Member States and stronger coordination between Member States and ECOWAS in financing and implementing operational plans (CEDEAO, 2020). Moreover, although the network has gradually acquired a large number of tools and is now able to evaluate food crisis responses and provide future recommendations to Member States and partners, there remains a crucial lack of policies and response monitoring, which make coordination at the regional level an extremely complicated exercise (SWAC/OECD interview, 2021).

Regional recovery mechanisms remain underdeveloped too. Although training workshops on PDNA and post-disaster recovery frameworks were successfully organised, capacity-building and institutional strengthening are still required. Indeed, the implementation of regional recovery mechanisms requires multi-sectoral and multi-stakeholder consultation for ownership and implementation, and demands a strong commitment from government, local, political and community leaders, community-based organisations, faith-based organisations and other related local-level institutions (GFDRR, 2018). There is still some way to go to make this a reality.

Despite the ambition to develop and operationalise guidelines on post-disaster response, recovery and reconstruction in fragile and conflict settings (P4 C-4), there is little demonstrable progress on this that is explicit about the DRR component or the engagement of NDMA and related disaster management authorities. Progress in armed and violent conflict areas is lacking and there is a severe lack of tailoring of DRR policies, guidance and projects to different types of conflict contexts. In addition, most of the projects and initiatives conducted so far in conflict areas have focused on a

menu of possible short-term humanitarian and political responses, rather than addressing the security and humanitarian crisis alongside resilience and sustainable development. The plethora of strategies and plans being devised and implemented in the Lake Chad Basin region are examples of this; some interviewees argued that ‘many of the strategies and programmes, military responses and stabilisation initiatives that have been rolled out in the region have not taken sufficient account of climate risks or are based on inaccurate hydrological information... Some of the military responses have even undermined the ability of people to cope with climate shocks’ (Vivekananda et al., 2019: 70).

Despite the plethora of knowledge exchange events ongoing throughout the region and continent (outlined above), it is difficult to assess the impact of these forums on changing or improving preparedness, response and recovery capacity and impact. To understand this, further research is required to explore the added value of each initiative, asking attendees what they found worthwhile and tracking whether lessons learnt, or new ideas generated, were adopted in individuals’ respective agencies/countries.

Finally, the substantial investments into climate fragility risks in the Lake Chad Basin region would arguably benefit from greater and more explicit integration of DRR. Despite indirect benefits aiding disaster resilience, more explicit integration of disaster risk preparedness and recovery would help pave the way for more sustained DRR practices and systematic integration of natural hazard-related disaster risk in such risk assessments and resulting interventions. It would also provide an opportunity to learn more about the application of DRR in conflict and post-conflict contexts, particularly when partnered with ambitions to support social cohesion and conflict prevention.

Recommendations

Continental level

(P4 C-1) Support disaster preparedness and response interventions.

(P4 C-1) ECOWAS, in collaboration with key OECD donors for the Sahel region, would be well placed to continue aiming to strengthen the integration of the RPCA mechanism into national response plans, and encouraging systematic allocation of financing through budgetary support. This includes advocating the integration of funding for the implementation of RPCA as part of any new effort to design national DRR investment plans (as articulated under the AU PoA national-level Priority Activities i.e., P3 N-1).

(P4 C-1) An efficiency review could be conducted by an independent body, funded by the key OECD donors for the Sahel region, following terms of reference (ToR) designed collaboratively with RPCA and ECOWAS Member States. Adopting the ethos of many of the recent reform processes from the humanitarian sector, the efficiency review could seek to identify and propose areas for streamlining coordination and implementation and improving efficiency and effectiveness in the areas of monitoring and learning. This review would respond to concerns about the current lack of policies and response monitoring that complicate regional-level coordination of the RPCA and its related tools. The RPCA, in collaboration with its partners, should convene a consultation process to devise a plan to adopt and implement the recommendations over the coming two years.

(P4 C-2) Strengthen continental and regional research, innovation and scientific solutions for disaster preparedness, response and recovery which incorporate traditional knowledge; (P4 C-3)

Establish a dialogue forum for exchange of best practice on disaster preparedness, response and recovery.

(P4 C-2 and P4 C-3) The Red Cross Red Crescent Climate Centre could undertake a year-long learning and reflection process, which pools any attendees' evaluations (and instigates those where event organisers do not require feedback), to better understand the value and impact of different forms, networks and conferences on various aspects of the disaster management cycle. This could include the regional DRR Platforms and Ministerial Conferences. The findings may then be used to inform the design and format of future conferences, networks and forums. This could include, for example, making recommendations to better exploit thematic synergies across convening spaces, replicating particularly valuable presentations or processes from one event/forum to another, ensuring that convening of a similar thematic focus genuinely builds on the outcomes of previous events, and sharing best practice for increasing participation and audience engagement. The process should aim to follow up with attendees three and six months after attendance, to better understand what drives uptake of knowledge and ideas, the barriers to adoption of new ideas, and whether future convening spaces can do anything to better leverage change following an individual's attendance.

(P4 C-4) Support the operationalisation of post-disaster response, recovery and reconstruction guidelines in fragile and conflict settings.

(P4 C-4) To achieve P4 C-4 it is recommended that the recommendation outlined in P2 R-1 is implemented first, namely: to undertake an assessment of the climate security-related investments, stabilisation plans and climate resilience investments in West Africa. Beginning with the Lake Chad Basin sub-region, the assessment could aim to better understand the extent to which the knowledge, experience and expertise of DRM technical specialists are being included in programme and fund design, how natural hazard-related disaster risks are being framed (for example, consideration of response only, or the broader contribution that could be made by DRR in risk mitigation and reduction), and whether there is a greater role to play for NDMAs and related DRR institutions in achieving the proposed outcomes of programmes, interventions and/or investments.

(P4 C-4) Based on its thematic experience of disaster recovery in the region, UNDP is well placed to lead the way, in collaboration with the World Bank and GFDRR, in devising a set of guidelines on post-disaster response, recovery and reconstruction in fragile and conflict-affected settings. Building on the UNDP, World Bank and EU guidance on conflict-sensitive approaches to PDNAs (UNDP et al., 2019), the set of guidelines would ideally be a building block for more substantial guidance on how to adapt all aspects of the DRM cycle to conflict contexts. These notes could build on the World Bank's current interest in expanding the conceptualisation of conflict; to move away from the traditional focus on classifying areas in accordance with battle deaths, and towards an understanding of the continuum of violence and conflict (armed, non-armed, psychological, physical, etc.). This would allow recommendations to be tailored to account for the nuances of conflict contexts, and would be a step towards a better understanding of how to achieve DRR outcomes in different conflict contexts (Peters, 2019).

(P4 C-4) A collaboration between continental and regional DRR stakeholders including the ECOWAS Humanitarian Affairs and Disaster Management Division, ECOWARN, AFD and GFDRR, could be formed to organise a series of technical meetings to explore the extent to which the current inclusion of both natural hazard-related disasters and conflict risks under the ECOWAS Open Data

Portal (ECOWARN, 2017) could be used to encourage multi-hazard risk assessments, early warning and early action. This could take two avenues of enquiry: (1) new and escalating disaster risk in conflict contexts, and (2) changing conflict risks in contexts where natural hazard-related disaster risk is already high. Consideration should be given to the most appropriate responses (preventative and post-disaster), which are likely to require both NDMA and DRR stakeholders, as well as those working on conflict prevention. The findings could helpfully feed into the ongoing discussions between ECOWARN, ECOWAS and the scientific community (ECOWAS, 2019c) on improving conflict prevention early warning and early action. Bank and donor engagement can be considered part of GFDRR's current strategy, which includes specific commitment to scale up support of DRM in conflict contexts (GFDRR, 2020b). This also presents an avenue for AFD's Fragility, Conflict and Crisis Department to work more closely across its DRR and conflict-prevention expertise – something it has been exploring recently (Peters, 2021).

Regional level

(P4 R-1) Develop measures to manage cross-broader disasters.

(P4 R-1) To progress with P4 R-1, it is recommended that the actions described under P2 R-1 on transboundary risks are actioned.

(P4 R-3) Develop regional response and recovery mechanisms for transboundary disasters.

(P4 R-3) UNDP, with financial backing from interested donors such as Sweden, Germany and France, among others, could consider designing a Disaster Recovery Capacity Development Plan focused on regional level institutions and mechanisms. Detailing capacity gaps to be addressed through technical training, as well as policy and strategy gaps to be addressed through future policy and strategy design processes, the Plan could articulate a set of viable advocacy positions to support the design of future regional policy and strategies that include disaster recovery more fully. It is advised that the development of the plan should only be pursued if there is equal commitment by the interested donor to fund at least a substantial proportion of the actions identified, to ensure momentum is maintained and to incentivise delivery. If effective, the process can be replicated in other regions where disaster recovery is nascent.

(P4 R-3) A set of briefing papers could be commissioned to articulate the value-added – and, where viable, aspects of cost-benefit and return on investment calculations – of disaster recovery into sectors and themes that are directly linked to recovery, but that do not currently adopt the principles or ideas from disaster recovery experts, including humanitarian and crisis funding, and security and stabilisation initiatives (including climate security and climate change adaptation programmes). This could draw on existing work exploring DRR in the context of crisis financing and response (UNDRR, 2020b). As part of a dissemination and outreach strategy, these briefings should be proactively shared with climate security, stabilisation, security and humanitarian experts – but to do so will likely require new partnerships with reputable independent research entities or think tanks already operating in those spaces.

(P4 R-3) In many respects, UNDP is leading the way in research, policy advisory work and action on disaster recovery across the West Africa region. However, the 2019 baseline study of disaster recovery across the continent (UNDP, 2019) deals only indirectly with issues of conflict, which is a gap that requires redress. In the study, conflict is regarded as either an impediment to recovery and an additional complexity within a broader set of socio-economic-political conditions, or it is

mentioned in reference to the work of conflict-prevention experts in addressing conflict outcomes resulting from natural hazard-related disasters such as floods. A dedicated empirical study on disaster recovery could be undertaken in a range of contexts, from active armed conflict to areas with high levels of interpersonal violence, and others. This would allow a deeper understanding of the realities of formal and informal disaster recovery processes across a sub-set of conflict-affected contexts in the West Africa region, and could help to inform the design of future workplans to enhance recovery processes. Without such evidence, there is a risk that well-intentioned disaster recovery plans and interventions are ill-suited to the conflict context they are designed to support. The research would benefit from being conducted by an interdisciplinary team comprised of DRR and conflict-prevention specialists.

(P4 R-7) Support integrated approaches that incorporate DRR in response practice at the regional and national level.

Further consideration should be given by DRR stakeholders to expanding the conceptualisation of ‘response’, so that a broader range of actors can be engaged. Specifically, there would be value in DRR stakeholders at the continental, regional and national level reaching out to those working beyond humanitarian response to include those engaged in stabilisation initiatives in the region – particularly the Lake Chad Basin region. This includes, for example, the Regional Stabilization Facility in Chad (UNDP, n.d.b). Existing partnerships can be built upon, such as regional and national stakeholder engagement with local authorities where it has been possible to curtail the expansion of the Boko Haram insurgency by restoring and extending effective civilian security alongside basic service delivery and livelihoods support. These types of partnerships and interventions can act as entry points for integrating DRR and climate change adaptation approaches into peace and stability initiatives, and risk-informed development approaches, in conflict-affected contexts.

(P4 R-9) Support improved biological hazard risk management and reduction.

Given the current economic downturn related to COVID-19, the potential to develop continental, regional and national post-COVID-19 recovery packages presents an opportunity (if managed effectively) to also advance a more joined-up approach to risk management. The repercussions of COVID-19 on the world economy and, in turn, on external aid which has led to a reduction and shortfall in funding, mean that more coherent approaches that use biological hazard risk management and reduction as an entry point for other hazards are going to become increasingly important. Indeed, existing research already makes the case for COVID-19 response and recovery packages to take a multi-hazard approach (see Quevedo et al., 2020). This can be used by DRR stakeholders and donors to champion more holistic approaches to disaster and health risk management. However, getting the key regional health actors on board with this agenda will be necessary to ensure that such joint efforts are pursued collaboratively, rather than being seen as increasing competition for already constrained resources.

Chapter 11: Disaster recovery

Reader's guide:

- Details of the structure and guiding logic for this chapter are provided in Chapter 1, under 'Structure of the chapters'.
- Readers are strongly encouraged to read the country chapters prior to this chapter, to help contextualise the information, analysis and recommendations provided here.
- For ease, recommendations related to disaster recovery that appear in the country and regional analysis chapters are also repeated here. To explain, if a recommendation begins with our coding system i.e. (P2 R-4), they have been extracted from the country and regional analysis chapters. Any recommendations without this coding are new recommendations specific to disaster recovery.
- The coding system described in Chapter 1 is employed to help readers connect the recommendations to the African Union Programme of Action (AU PoA) Priority Activities.
- Although country-specific recommendations are provided, readers are encouraged to adapt recommendations provided for one country to others, given that many countries are facing similar challenges in advancing disaster recovery. Similarly, the recommendations provided in the regional chapter (Chapter 10) may also be relevant at the country level.
- Details of the primary and secondary evidence collection and analysis that informed this chapter can be found in the methodology in Chapter 1.
- Acronyms are written in full the first time they are used within the chapter.
- Chapter bibliographies are included at the end of the report.

Introduction

Preparedness, response, recovery and mitigation are complementary measures within disaster risk management (DRM) that need to be combined in an appropriate way to form a continuum of action. The United Nations Development Programme (UNDP) defines disaster recovery as a 'transformative process through which households and communities rebuild their assets, restore their livelihoods and strengthen their capacities to manage the impacts of future crisis' (UNDP 2019a: 10). Inherent within recovery is the notion of resilience – the ability of a community or society exposed to hazards to prepare, resist, absorb, accommodate and adapt to future shocks and stresses (UNDP, 2019a). Effective disaster management involves moving the focus from merely responding to disasters and crises, to pursuing pre- and post-disaster prevention and preparedness activities. In such cases, the recovery phase can provide a unique opportunity to strengthen resilience capacities, and act as a vital bridge from emergency relief to longer-term sustainable development.

This chapter reports the findings from the assessment that focus specifically on disaster recovery across the seven focus countries and at the West Africa regional level. For each country, the progress made on disaster recovery management since 2015 and the challenges to further action are assessed. As disaster recovery is so nascent across the region, the research did not use a predetermined framework to assess progress but instead sought to document anything that exists that could be of relevance. This includes, for example, disaster risk governance for disaster recovery;

the integration of recovery considerations into sectoral and institutional mandates, training, skills and capacities on disaster recovery; and tools and methods used.

Reflections and recommendations are also provided, tailored to each country and for the regional level, which aim to inform and improve present and future recovery processes across West Africa and the Sahel. Importantly, as disaster recovery is one component of a broader system of DRM, to achieve progress on disaster recovery, the recommendations outlined within the individual country and regional chapters across Priority Actions 1–4 of the AU PoA should also be actioned – and are repeated here for ease. Recommendations that begin with our coding system – i.e., '(P2 R-4)', for example – are recommendations related to disaster recovery that are extracted from the country and regional analysis chapters. Any recommendations without this coding are new recommendations specific to disaster recovery.

Disaster recovery in Burkina Faso

Progress and achievements

Over the last two decades there have been concerted efforts to strengthen Burkina Faso's national disaster management capabilities, including disaster recovery processes. At the institutional level, the National Council for Emergency Relief and Rehabilitation (*Conseil National de Secours d'Urgence et de Réhabilitation*, CONASUR) was established in 2004 as the national structure responsible for the strengthening and implementation of DRM policies and strategy at national and sub-national levels, with a focus on disaster management and aspects of disaster risk prevention and reduction (CONASUR, 2014).

Following heavy flooding in 2009, the Government of Burkina Faso produced a post-disaster needs assessment (PDNA) (Government of Burkina Faso, 2010). Subsequently, funding to the country from the Global Facility for Disaster Reduction and Recovery (GFDRR) was focused on implementing a recovery plan to the value of US\$1.4 million, coordinated by CONASUR (GFDRR, 2016). Building on experiences gained in the 2009 flood recovery process, National Multi-Risk Disaster Preparedness and Response Plans (*Plan National Multirisque de Préparation et de Réponse aux Catastrophes*) (Gouvernement du Burkina Faso, n.d.; Gouvernement du Burkina Faso, 2016a) were developed, as well as a National Disaster Risk Reduction Strategy 2013–2017 (Gouvernement du Burkina Faso, 2013) and National Action Plan for Disaster Risk Reduction and Emergency Preparedness and Response Capacity Development 2016–2020 ('National Disaster Risk Reduction Capacity Development Plan') (Gouvernement du Burkina Faso, 2016b). The National Disaster Risk Reduction Strategy and National Disaster Risk Reduction Capacity Development Plan are designed to enhance institutional capacities for risk management, response and recovery. Under this Strategy, regional contingency plans have been established, especially in flood and conflict-affected areas, with the support of the National Resilience Capacity Building Project (UNDP, 2019a). In 2016, the government organised a consultation process to elaborate a Framework for Post-Disaster Recovery, although this was subsequently not adopted or implemented (UNDP, 2019a).

Over the period covered by this assessment, the Government of Burkina Faso has been a partner in the UNDP-managed Preparedness for Resilience Recovery programme 2014–2017, funded by the Government of Japan, together with the Building Capacities for Resilient Recovery programme (BCRR Phase I & II) which is funded by the Government of Luxembourg (UNDP, 2020a). The BCRR programme has supported two PDNA trainings that brought together participants from different

CONASUR agencies and regions across the country. Subsequently, a national pool of experts was created from ministerial departments and from CONASUR member agencies who attended the. The training specifically focused on inclusive recovery management of internally displaced populations (IDPs) (UNDP, 2019a).

While dedicated recovery institutions and programmes have not yet been established in Burkina Faso, it should be noted that the most impactful natural hazards in the country are connected to climate change, but compounded by social insecurity and mass displacement of people affected by conflict and fragility. As described in the country chapter, Burkina Faso has invested considerable effort in developing national development plans that address the needs of the most vulnerable, though further research is needed to investigate the extent to which these programmes adapt to the changing nature of community vulnerability and whether their successful delivery would result in tangible, or sufficient, reductions in disaster recovery needs if/when hazards occur.

Like other West Africa countries, Burkina Faso has validated the Economic Community of West African States (ECOWAS) Disaster Risk Reduction Gender Strategy and Action Plan (GSAP) (ECOWAS, 2020a). The GSAP calls on participating countries to fully integrate gender considerations into DRM policies and programmes, including facilitating gender-response recovery and 'building back better' approaches. It is considered too early in the process to assess tangible evidence of gender-differentiated data; however, prioritising recommendations for gender-specific recovery is critical to ensure any advancements in recovery are inclusive and equitable, in line with the GSAP.

Challenges and barriers

Burkina Faso has a number of national institutions involved in disaster management, although, to date, the legislative, policy and strategic framework is focused on preparedness and response to emergencies (UNDP, 2019a). The key findings of this research (documented within the country chapter) highlight: the inadequacy of the legislative framework for disaster risk and recovery; the limited institutional anchoring of the CONASUR and its sub-national branches vis-à-vis the General Directorate for Civil Protection (*Direction Générale de la Protection Civile*, DGPC); and the overall weak consideration of disaster recovery in the national emergency management system (UNDP, 2019a). Moreover, most DRM stakeholders are prioritising the need to revise Law 012/2014 (Gouvernement du Burkina Faso, 2014) to clarify the mandates between CONASUR and the DGPC and establish a central coordinating crisis prevention and management entity under the Prime Minister (Senior Expert Consultation, 2021; World Meteorological Organization (WMO) interview, 2021).

Like other Central Sahel countries, Burkina Faso is facing a protracted humanitarian crisis and forced displacement due to persistent violence and insecurity in northern areas, compounded by increasing weather extremes, climate variability and change. These exacerbate the drivers of conflict, whilst conflict and associated displacements undermine the coping and adaptive capacities of populations (FAO, 2020). The Food and Agriculture Organization's (FAO) projections of increasing livelihood and food insecurity underline the growing demand on CONASUR and the DGPC (as well as other relevant disaster risk reduction (DRR) stakeholders) to enhance national disaster management capacities, with a strong focus on implementing effective operational response mechanisms, particularly in relation to the large numbers of IDPs.

According to UNDP's regional Disaster Recovery Specialist (UNDP interview, 2021), although national actors have benefited from a series of interventions to build recovery capacities, including regional PDNA and disaster recovery framework (DRF) training, additional assistance will be required to build the capacities of national DRR actors to the point where the national government can self-initiate recovery planning processes. Similarly, it was considered too early in the adoption of the ECOWAS GSAP 2020–2030 (ECOWAS, 2020a) to see tangible changes in practice at the national/sub-national levels for specific intersections of community, namely women and girls (UNDP interview, 2021).

In general, there was a perception amongst the UNDP project staff interviewed (UNDP interview, 2021) that the current approach to capacity-building had only achieved limited results in strengthening local capacities, particularly due to the protracted nature of crises, unstable governance arrangements, constant turnover of government personnel, and heavy reliance on external funding. For the near term, recovery processes are likely to remain heavily dependent on external technical expertise and funding.

In future, in a region experiencing protracted and recurrent crises linked to chronic development deficiencies alongside projections of increasing food insecurity (FAO, 2020), the importance of the transition from emergency response to a resilient recovery and DRR will continue to increase. In particular, the need to strengthen resilience to better resist, absorb and accommodate future shocks and stresses, and to provide a link to climate and disaster risk-informed development trajectories, will become increasingly apparent.

Recommendations

New evidence is required to avoid repeating the same mistakes

As previous attempts to establish a DRF in Burkina Faso have fallen short, more detailed understanding of the drivers, barriers and incentives for disaster recovery are required to guide any future investments in this area. New research is required to: better understand disaster recovery at the local level; identify the barriers that prevented the implementation of the previously drafted recovery framework; and articulate a distinctly Burkinabe approach to disaster recovery. Specific actions are outlined below:

- (P3 N-6) New empirical research is required to better understand the formal and informal financing flows underpinning sub-national to local-level DRR/DRM actions. The methodology for this research should place equal emphasis on informal financing to uncover: the extent to which individuals and communities fund risk reduction actions themselves; the impact on individual and household incomes and financial security, taking a social inclusion lens to identify intersectional variations; and the trade-off between ex-ante investment with ex-post disaster impacts and the cost of disaster recovery.
- It would be valuable to commission research to explore the gaps and constraints hindering the adoption of previous efforts to advance disaster recovery. The investigation should seek to identify what barriers were present, whether they remain today, what attempts were made to overcome those, what worked and what did not. The findings could inform a more strategic approach to the development and implementation of a future DRF in Burkina Faso, while insight garnered from countries across the continent who have experienced similar constraints could be used to inform discussions about whether devising another DRF would be a sensible way forward in the context of Burkina Faso.

- (P4 N-2) Given UNDP's technical and financial investments in disaster recovery across the region, it is well placed to collaborate with its technical specialists within the global teams to better define an approach to disaster recovery that is appropriate to the local context in Burkina Faso. As a first step, this would require building the capacity of key individuals within CONASUR and DGPC and representatives from key ministries (infrastructure, health, education, women and gender) to understand what happens on the ground in formal disaster recovery. This should then be complemented with original empirical research by an independent research institute that specialises in understanding informal self-recovery processes undertaken by local communities. This research could both identify what happens on the ground and create a better understanding of local and traditional capacities for post-disaster recovery. These insights should inform the development of a Burkinabe framework for disaster recovery, accompanied by a financing plan and operational plan of implementation. To the extent feasible, this plan will take consideration of core themes relevant for effective risk management including gender and social inclusion, intersectionality, conflict sensitivity and environmental protection, among others.

Establish legal and policy frameworks

Alongside the development of a Burkinabe DRF, greater emphasis should be placed on developing implementation and financing strategies to ensure their operationalisation. This should include the following actions:

- In response to the call expressed within the Senior Expert Consultation (2021), CONASUR would do well to work with national DRR actors to prioritise defining a process to revise Law 012/2014 (Gouvernement du Burkina Faso, 2014). Part of the aim should be to more clearly define the organisational mandate and accountability mechanisms required for effective disaster recovery preparedness and management.
- Informed by the new insights from the research described above, and in line with experiences gained from the 2009 PDNA (Republic of Burkina Faso, 2010), CONASUR, with support from global and regional DRR partners, could develop guidance for national and sub-national DRFs with an implementation and financing plan based on a PDNA. Emphasis should be placed on applying early recovery approaches that support the building of stronger linkages across emergency response and recovery processes. Any accompanying implementation plans must be accompanied by a budgeted financing plan to help national and sub-national government authorities secure adequate internal and external funding. In complement, a multi-year programme of financial and technical support, provided by UNDP, GFDRR or other interested donors, could aid the government to roll out this guidance and to undertake implementation and source additional funding as required based on any DRFs devised. Sustained technical support for securing additional financing is critical to avoid repeating the experiences of the past.
- (P4 N-4) In conjunction with the recommendations under Priority 3, regional and international donors experienced in funding DRR activities could support the DGPC to develop DRR investment plans to facilitate the implementation of the 13 regional ORSEC plans and to support the development of provincial ORSECs (DGPC interview, 2020). Given its experience in disaster recovery, UNDP could consider developing a training programme on disaster recovery specifically for regional-level decision-makers who will be designing provincial ORSECs, to ensure these plans adequately include disaster recovery actions.

- CONASUR, in collaboration with ECOWAS under the direction of the GSAP (ECOWAS, 2020a), could identify and regularly update gender markers within national DRR strategy and capacity development plans at national and local levels. Gender-relevant information would need to be gathered, disaggregated and made publicly available to inform the prioritisation of recovery planning and investments.
- The European Union (EU), UNDP and the World Bank, among others, could provide technical and financial assistance to support the national government in the revision and subsequent delivery of the national DRR plans – including the National Disaster Risk Reduction Strategy, National Disaster Risk Reduction Capacity Development Plan and the Multi-Risk Preparedness and Response Plan (Gouvernement du Burkina Faso, 2013; 2016a; 2016b) – placing an emphasis on strengthening coherence across the disaster cycle to achieve optimum results for disaster recovery. This could include applying the Sendai Framework guiding principles of all-of-society engagement to empower local state and non-state actors and mobilise all existing capacities, including local volunteerism as a strategic resource for community recovery (UN Volunteers, 2018).
- A revision to the National Disaster Risk Reduction Strategy, National Disaster Risk Reduction Capacity Development Plan and the Multi-Risk Preparedness and Response Plan (Gouvernement du Burkina Faso, 2013; 2016a; 2016b) could be informed by an independent assessment of CONASUR's organisational capacities at all administrative levels (particularly sub-national), to support the delivery of the strategy down to the community scale. Given resource limitations, the plan could initially be piloted in specific sub-regions that are subjected to recurrent crisis.

Develop a Burkinabe framing of disaster recovery

- (P4 N-6) Given the significant ongoing humanitarian funding to Burkina Faso, the country's DRR experts in collaboration with ECOWAS should consider publishing a briefing paper to define what the stronger inclusion of long-term disaster resilience and disaster recovery would entail as part of humanitarian and crisis funding. This would essentially be a Burkinabe interpretation of the current efforts by the United Nations Office for Disaster Risk Reduction (UNDRR) to articulate how DRR fits into crisis financing and response (UNDRR, 2020), and would be a good test case for ECOWAS; if this briefing received a positive reception from the government and international donors, the integration and scaling up of DRR into humanitarian funding and the humanitarian programme cycle could be pursued. Informed by lessons learnt from the Global Cluster for Early Recovery (GCER) and the humanitarian–development–peace (HDP) approach, the United Nations Country Team (UNCT) could use the opportunity presented by the revisions to the National Disaster Risk Reduction Strategy, National Disaster Risk Reduction Capacity Development Plan and the Multi-Risk Preparedness and Response Plan (Gouvernement du Burkina Faso, 2013; 2016a; 2016b) to promote a recovery approach that strengthens response to development linkages. The UNCT can use its comparative advantage in convening multiple stakeholders to bring together humanitarian and development expertise to operationalise the HDP nexus across recovery planning, implementation and reporting processes.
- International finance institutions (IFIs) and development partners that are supportive of disaster recovery and of Burkina Faso would be well placed to commission a study to propose innovative hybrid response-recovery financial arrangements and risk financing mechanisms that could be trialled within the country. Consideration should also be given to the different avenues to create

incentives for ‘new ways of working’ (UN, n.d.) across the HDP nexus and build stronger linkages across response–recovery–development processes.

Disaster recovery in Chad

Progress and achievements

As a member of the Economic Community of Central African States (ECCAS) and the AU, Chad has benefited from a series of regional and Africa-wide interventions supported by multi- and bilateral development partners to strengthen national disaster management capabilities. One example is the Central Africa Regional Strategy for Risk Prevention, Disaster Management and Climate Change Adaptation (ECCAS, 2017) – which includes aspects on disaster recovery (see regional section below).

At the national level, according to the latest activity report for the Building Disaster Resilience in Sub-Saharan Africa Result Area 2 programme (which is supported by the African, Caribbean and Pacific Group (ACP) and the EU and implemented by the World Bank/GFDRR) (ACP et al., 2020), Chad’s draft National Disaster Risk Management Strategy and Action Plan has been prepared and is currently under review by UNDRR and the African Union Commission (AUC) before being finalised. Result Area 2 of the programme has a specific component to enhance post-disaster assessments and reconstruction planning. A core activity under this component has been PDNA and DRF training with support from technical experts from the EU and UNDP. During the trainings, special emphasis was placed on the issue of fragility and conflict, as Chad and the neighbouring Lake Chad Basin region are frequently impacted by political instability and insecurity, characterised by forced displacements and repeated disruption to people’s livelihood activities.

In recognition of the worsening situation in the Lake Chad Basin region, several comprehensive assessments have been commissioned to better understand the risk landscape and develop integrated risk management solutions to address the crisis and enhance security. These commissions include: the *Climate-Fragility Profile: Lake Chad Basin* (Nagarajan et al., 2018); the *Lake Chad Development and Climate Resilience Action Plan* (World Bank, 2016); and *Shoring up stability: addressing climate and fragility risks in the Lake Chad Region* (Vivekananda et al., 2019).

Significantly, all reports in different ways highlight the systemic interconnected nature of risk, where humanitarian crisis, climate change, conflict and mal-development are linked and can be mutually reinforcing. Effective solutions will need to address the interlinked climate–conflict risks and challenges as experienced by affected communities (Vivekananda et al., 2019). In the Chadian context, recovery should be a conflict-sensitive ‘transformative process’ that decreases the vulnerabilities of impacted populations and strengthens the resilience of communities to future shocks and stresses, providing a bridge to risk-informed development (UNDP, 2019a).

Challenges and barriers

To understand the severity of the current and future impediments to advancing disaster recovery in Chad, it is necessary to recap elements of the risk profile. According to the INFORM Risk Index 2020 (UN OCHA, 2020), Chad is among the 10 countries most vulnerable to disaster risks. The *Global Report on Food Crisis 2020* (FAO, 2020) forecast the number of acutely food-insecure people during the 2020 lean season at 1 million; 60% higher than the estimated number in the same period the year prior. This sharp deterioration has been driven by heightened violence and insecurity in the Lake Chad region, compounded by increasing variability in temperatures and the timing and amount

of rainfall. Communities in the region are increasingly exposed to the impacts of climate change and ongoing conflict, often in the same location at the same time. According to climate projections, weather conditions will increasingly become more extreme and more unpredictable (FAO, 2020).

In line with the increases in disaster risks, low-severity yet high-frequency (extensive risk) events that are mainly associated with highly localised hazards are increasingly prevalent and constitute most disaster losses at the community level (UNDP interview, 2021). Across the region, the steady growth in disaster risk is increasing awareness of the need for recovery management, although disaster management capacities remain limited and primarily focused on emergency response. In the near term, recovery processes remain heavily dependent on external technical assistance, notwithstanding training in PDNA and DRF methodologies.

UNDP's regional recovery expert (UNDP interview, 2021) identified some critical constraints for improving recovery in Chad and neighbouring countries, namely: high demand for emergency response; narrowly defined training inputs on specific PDNA and DRF tools, rather than a broader focus on recovery processes; inadequate means of implementation (time and resources) for recovery planning; financial and programmatic fragmentation across different stages of the disaster cycle; and the lack of conceptual clarity between DRR, resilience and 'build back better'.

According to Peters et al. (2019), the absence of a strong social contract within Chad, impeded by a lack of trust between citizens and government, creates an additional layer of difficulty in implementing normative approaches to DRM. Whilst Chad currently lacks strong DRM policy and institutional arrangements, it does have significant operational experience in responding to drought and food security, partly because such interventions are financed by external donor support (Peters et al., 2019). These emergency response interventions, linked with increasing interest from the international community on the topic of climate security within the Lake Chad Basin region, could provide an appropriate entry point for emergency recovery as part of a wider agenda to strengthen community resilience to climate and disaster risks.

Recommendations

Develop guiding principles and performance standards on disaster recovery

Given the relatively low baseline for work on disaster recovery across Chad, efforts need to be concentrated on laying the groundwork for a deeper understanding of what disaster recovery processes entail. This requires clear principles and standards for recovery, and raised awareness among senior civil servants and ministerial positions, as outlined below:

- As part of a broader approach to strengthening disaster recovery processes within the Sahelian region, ECCAS and international partners, including but not limited to the AU, could elaborate a set of guiding principles and performance standards for resilient recovery in the sub-Saharan context. With financial backing from the French Development Agency (*Agence Française de Développement*, AFD) and/or other donors, UNDP could provide technical advice to the Chad National Platform for DRR to adapt and socialise those principles and standards with the National Platform's members. This could help initiate an action-orientated discussion on the opportunities to enhance recovery processes into the members' organisational ways of working. Over time, National Platform members could be supported to make commitments to adopt the principles and standards. If successful, annual progress reviews should be undertaken for the purpose of monitoring and learning.

- Significant advances in overall disaster management capacity and capability are likely to be required before specialist topics like disaster recovery can be effectively advanced. Processes of policy influencing on topics such as disaster recovery are likely to require technical support. For example, as part of a longer-term strategy to raise awareness of disaster recovery across the country, targeted advocacy by ECCAS and development partners could aid the Chad National Platform for DRR to raise visibility and, in turn, political commitment from senior civil servants and national ministers (such as the Ministry of Environment) on the value of having official policy and strategy commitments on disaster recovery processes. Given that the DRR community remains nascent, framing this awareness-raising using the language of ‘resilience through recovery’ is likely to be attractive; there is relatively high recognition of the term ‘resilience’ and its use within climate and humanitarian cadre.

Pitch disaster recovery in the context of climate security and stabilisation

- Donors who have been active in climate security discussions and forums and who are interested in the Lake Chad Basin region and in DRM, such as Germany and France, among others, could consider commissioning an advisory report that pitches disaster recovery as a direct and necessary component of any action on discussions on climate security. This would be a worthwhile intellectual exercise and could help to pivot investments on the fragility and security implications of climate change towards disaster recovery processes. If traction is gained, GFDRR and UNDP could continue to invest in strengthening the capacity of ECCAS to support the localisation of in-country recovery management capabilities across all stages of the recovery process; thus, using disaster recovery as a means to bring discussions of climate security to the operational and local level.
- At the international level, a small coalition of DRR experts could be funded to contribute to ongoing climate security discussions to ensure adequate representation of DRM approaches, tools and expertise into the UN Climate Security mechanism and ongoing and future climate security risk assessments, programmes and interventions. Germany would be well placed to fund such a coalition, given its historic engagement in climate security discussions at the UN Security Council, and investment in exploring the relationship between DRR and conflict (see Peters, 2019).
- (New area) Effectively embedding principles and action on disaster recovery into crisis recovery programmes is a nascent area of work but one worth pursuing – to support the HDP nexus, as well as more integrated approaches to crisis management in conflict contexts. This could include, for example, utilising ongoing initiatives such as those of the UNDP Sahel Resilience Project and the Lake Chad Basin Commission, to bring together DRR, climate change and conflict expertise, alongside experts who specialise in other shocks and stresses related to livelihoods, political change, military and security. Integrating considerations of hazards into peace, conflict and stabilisation efforts could help encourage a broader approach to recovery by those actors not normally concerned with aspects of DRM. Moreover, this would be a useful test case to trial different and more collaborative ways of working that, if effective, could be applied to other countries across the region.

Consider alternative approaches to promoting disaster recovery

The recommendations outlined above follow the normative approach of promoting disaster recovery. However, approaches that do not use the language of DRR but instead tap into the themes that currently have more political traction within Chad should also be considered (see Peters et al., 2019):

- (P4 N-4) Disaster recovery is virtually non-existent within the country in terms of technical specialists, funding allocation, policies or plans, or mandated agencies to take recovery forward. Given the prevalence of capacity-building plans and contingency plans that are hindered by a range of financial, political and technical limitations, close consideration should be given to how to advance disaster recovery without adopting the normative approach to develop a formal plan. While this may seem counter intuitive, it may be better – at least for a few years – to focus on establishing the foundational experience and empirical evidence base through investments, which can in time serve as useful advocacy points for more systematic and concrete action on disaster recovery within the country. For example, by focusing on taking advantage of opportunities as they arise and/or as politically expedient, disaster recovery goals could be actively embedded into ‘other’ (meaning non-DRR explicit) mechanisms, frameworks and investment plans. This will require more work by advocates, as they will need to determine how to achieve disaster recovery outcomes without using the language of DRR, but instead using discourse more comfortable to the audience – whether this is humanitarian response, livelihood and food security, climate security or even stabilisation and peace.

The UN system with support from UNDP, in collaboration with other key national stakeholders, could consider Chad as a test case for taking this alternative approach to advancing disaster recovery, drawing on partnerships with a multi-disciplinary team of specialists specifically geared towards policy influencing. An experimental two-year programme could be designed to field test whether a more radical approach to advancing DRR without the usual approaches would be impactful. Ongoing efforts in bringing the disaster and climate change aspects to stabilisation efforts in the Lake Chad Basin through UNDP projects – such as the Sahel Resilience Project and the Regional Stabilization Facility of Lake Chad Basin Commission – might offer useful lessons on how such integration could take place in conflict settings.

Disaster recovery in Mali

Progress and achievements

Prior to 2021, Mali has been an active formal participant in global and regional DRR initiatives, including those led by ECOWAS to strengthen national DRM institutions and policies. For example, Mali has adopted and engaged with the Sendai Framework (UNDRR, 2015), the Africa Regional Strategy for Disaster Risk Reduction (ARSDRR) (AUC et al., 2004), the more recent Programme of Action for the Implementation of the AUC Africa Regional Strategy for Disaster Risk Reduction 2015–2030 (AUC, 2017), and the ECOWAS GSAP (ECOWAS, 2020a). In 2016, the Government of Mali approved the National Strategy for Disaster Risk Reduction and the associated action plan (Gouvernement du Mali, 2016). More recently, in 2020, Mali adapted the ECOWAS Regional Flood Management Strategy for West Africa 2020–2025 (ECOWAS, 2020b). All of these frameworks and strategies have disaster recovery components, requiring the strengthening of post-disaster recovery planning (see regional section below).

However, since June 2021, the second military coup in the space of a year resulted in Mali's suspension from the AU and ECOWAS (Reuters, 2021). Given the constantly fluctuating political situation at the time of this report, the analysis and recommendations provided here assume the future re-enrolment of Mali into those regional and continental arrangements.

As a partner in the ACP-EU Building Disaster Resilience in Sub-Saharan Africa programme 2015–2020, which is managed by the World Bank/GFDRR (ACP et al., 2020), Mali has participated in collaborative actions to improve the country's disaster recovery capacity, including training on PDNA and DRF methods. For example, in March 2020, Mali participated in a joint training event in Liberia hosted by the World Bank, UNDP and the EU on standardised methodologies to conduct PDNAs and developing a DRF (ACP et al., 2020).

In 2019, following devastating floods in Bamako that affected parts of the capital city, Mali undertook its first rapid damage assessment and devised a 2019 Flood Recovery Framework (République du Mali, 2019a; 2019b) to inform recovery needs. The work was led by Mali's Ministry of Security and Civil Protection with support from development partners, including the EU, UNDP, United Nations Office for the Coordination of Humanitarian Affairs (UN OCHA), World Food Programme (WFP) and the FAO. The work covered several sectors, including housing, water and sanitation, transport, education, health and DRR. Although Mali has recently adopted the ECOWAS GSAP (ECOWAS, 2020a), the gendered dimensions of the Bamako flood impact were not highlighted in the 2019 PDNA and related recovery framework. To address this, anecdotal evidence suggests that there are intentions to develop gender-sensitive recovery processes to support the meaningful inclusion of affected women, girls and boys (UNDP interview, 2021).

At the regional level, UNDP intends to establish a cadre of appropriately trained national and regional recovery professionals and civil servants who are able to undertake recovery management and build the capacities of national DRR actors (UNDP interview, 2021). To date, in Mali as elsewhere across the region, recovery assessments and planning processes remain heavily dependent on external expertise (UNDP interview, 2021).

Finally, there is reason to believe that aspects of disaster recovery are being indirectly addressed as a result of broader efforts to enhance socioeconomic development within the country. Mali's vulnerability to disasters is rooted in its entrenched poverty and high exposure to the cyclical and increasingly recurring effects of climate variability and change and desertification (FAO, 2020). Moreover, although security is considered to have improved in northern parts of the country, insecurity is severely affecting the more populated central areas, further undermining people's ability to deal with the consequences of an increasingly variable climate (FAO, 2020). It is hoped that progress on these broader poverty and insecurity trends (see Mali chapter) will have an indirect impact on the risk landscape and thus on the severity of future recovery needs.

Challenges and barriers

Mali's contingency plans and response plans at the national and sub-national level largely do not include disaster recovery, and there is no dedicated disaster recovery operational plan to ensure implementation when action is required (Civil Protection interview, 2020; UNDP interview, 2020). There is also no clear institutional mandate or accountability for disaster recovery, nor a financing strategy to support implementation.

As noted in the Mali chapter in this report, the limitations identified in 2019 largely remain a concern, such as: the unavailability of pre-positioned food and non-food items (NFI) stocks at regional level; the lack of operational capacity of the Watch Committees; the weak monitoring and information management capacity of the response system; and the absence of an established mechanism to pre-identify temporary shelter infrastructure (Ministère de la Santé et des Affaires Sociales, 2020).

The limited progress made on disaster recovery should be situated within the broader evolution of DRM within the country. The prevention, mitigation and recovery dimensions of DRM are still maturing, and disaster recovery is not governed by a clear legislative framework or institutional mandate. Furthermore, the lack of a centralised hazard and vulnerability database and risk scenarios over the short to medium term inhibit decision-making processes that could inform longer-term contingency planning for delivering disaster recovery processes.

According to a top-ranking official within the government (*Centre National des Opérations d'Urgence* (CNOU) interview, 2021), 'beyond the 2019 Rapid PDNA and Recovery Plan, the Government has made no substantial investments to develop recovery policies, frameworks and plans'. When asked about Mali's progress in recovery, another official mentioned several training events in PDNA organised by UNDP since 2015. Both statements suggest that disaster recovery as a concept is not driving decision-making or investment in the country and, to date, well-intentioned efforts to enhance disaster recovery are piecemeal, project-based and focused largely on PDNA methods.

The dispersion of DRR accountabilities, scarcity of financial resources, and lack of technical capacity on disaster recovery are further barriers to developing a coherent set of predictable institutional, financial and operational mechanisms to enhance disaster recovery across the country.

Furthermore, alongside the need to mature the disaster risk governance arrangements in Mali as a whole, preventive or mitigating actions are required also. This includes, for example, the enforcement of land-use planning policies and codes (République du Mali, 2019a). Such preventative actions could reduce the disaster recovery needs, by mitigating the impact of hazard events – such as floods – when they occur.

Given the high incidence of food insecurity, continued instability and associated humanitarian needs across the country – which are closely linked to climate change, entrenched poverty and underdevelopment – there is a need to use humanitarian action as an entry point to support resilient recovery. In line with UNDP's conceptual approach to recovery, this could serve as a vital bridge to risk-informed development (UNDP, 2019a) – although genuine processes for risk-informed development are still a distant goal. Creating such a bridge would require a more holistic DRM approach that builds stronger linkages across response–recovery–development domains, but if successful could strengthen coherence by unlocking synergies across traditional mandates and sectors.

Recommendations

Build technical capacity in disaster recovery

For DRR advocates to have the technical capability to champion disaster recovery within Mali's development, humanitarian and disaster planning and implementation process, it is first necessary to build technical capacity on disaster recovery:

- (P4 N-5) Professional training opportunities are required on all aspects of DRR/DRM, including specifically on risk reduction and disaster recovery for urban planners and in the education sector. This finding from the 2019 PDNA has not yet been implemented. Bolstering training on these themes in the existing master's degrees would be valuable, with placements offered to serving civil servants working within the CNOU, Civil Protection and other disaster management entities across the government as part of their career development.

Integrate disaster recovery into the revision of policies and plans

With enhanced technical capacity on disaster recovery established, opportunities to integrate disaster recovery into the revision of policies and plans should be taken, as well as harnessing opportunities from themes that have political traction, such as gender:

- (P4 N-2) Prior to the revision of the National Contingency Plan, a series of technical sessions could be convened. Each could be hosted by different members of the National DRR Platform in accordance with their specialism, to raise the level of understanding of different issues that are currently under-addressed by the plan. This includes, for example, preparedness, gender and social inclusion, urban planning, coordination across scales and decentralised DRR mechanisms, disaster recovery, and disaster risk financing. The UNDRR and other UN agencies should provide technical support where specific technical areas are not available within the National DRR Platform, drawing on the extensive resources already available through PreventionWeb (2021).
- Building on the experiences of flood recovery in 2019, the development of a Malian disaster recovery position paper could help articulate the gaps identified in national policy, and institutional and financial mechanisms, and guide the planning and implementation of post-disaster recovery processes as and when required. To reduce the risk of PDNA and DRF training being undertaken in isolation from wider recovery processes, a position paper on national recovery could also help to emphasise resilient recovery as a strategic bridge between emergency response to risk-informed development processes. The development of guidelines for national and sub-national DRFs could also help increase national stakeholders' understanding of the added value of an integrated DRM approach, as promoted within the Sendai Framework. Furthermore, Mali's interdisciplinary national DRR platform could play an important convening and awareness-raising role in promoting resilient recovery, while building stronger response–recovery–development linkages could enable resilient recovery to be used as an entry point to accelerate the transition towards risk-informed development.
- The Civil Protection Directorate (Ministry of Security and Civil Protection), with support from UNDP, could consider the added value of developing technical guidance for future DRFs within Mali. While such guidance could help to clarify what disaster recovery means operationally in the Malian context – alongside the position paper (described above), as well as the individual roles and responsibilities of various actors, thought should also be given to whether and when the development of such a document would be politically expedient (not least given the current suspension of Mali from ECOWAS and the AU). If it is deemed timely and appropriate to develop such guidance, consideration could be given to the level of ambition to be articulated; should this be a best practice framework that aims high, or simply a 'good enough' ambition that is more likely to be achieved? The former would include, for example, ideas on integrated DRM and utilising crisis response for the promotion of longer-term recovery actions, while the latter could make clear the bare minimum required from humanitarian responses that avoid undermining future disaster recovery processes.

Recognise disaster recovery as part of the mandate of existing disaster risk governance arrangements

- To reinforce the importance of recovery as a critical component of the national disaster management system, existing disaster risk governance arrangements need to be supported to understand and act on the topic. With technical backstopping by UN agencies, the Inter-Ministerial Committee for Disaster Management could charge the CNOU, which serves as its operational arm and as the Secretariat of the National DRR Platform, to articulate a long-term vision for enhancing disaster recovery processes within Mali. As first step, a relatively simple articulation of a collective ambition for disaster recovery would be valuable, alongside a facilitated discussion on the drivers, benefits, barriers and incentives for enhanced disaster recovery within the country.
- Building on the recommendation above, the Inter-Ministerial Committee for Disaster Management could be supported to investigate the current barriers to the full implementation of the Flood Recovery Framework (République du Mali, 2019b), and its recommendations. Based on the findings, the mandates and accountability mechanisms of the existing disaster risk governance arrangements across the country may need to be revisited and strengthened; without this, the development of any new well-intentioned recovery work is likely to face the same fate. As budgetary constraints are likely to be a major factor, consideration should be given to whether and how an operational budget could be secured for disaster recovery processes, and expectations set for what might be feasible over the coming three to five years, in the context of those budgetary constraints.

Use crises as an opportunity for advocacy on disaster recovery

- The Mali Inter-Ministerial Committee could task the National DRR Platform – with technical support from the Civil Protection Directorate, UNDP and UNDRR – to advocate for enhanced funding to support the implementation of integrated DRM approaches that pilot resilient recovery actions with a view to strengthening coherence across the HDP nexus. Capitalising on the visibility of a crisis may be one of the few ways to instigate such a conversation, given the prevalence of routine development challenges already competing for limited budget and political attention. Thus, a useful starting point could be to pre-prepare advocacy messages to be released in the event of a future disaster or humanitarian crisis, or to raise the visibility of Mali on the international stage, whether in the UN Security Council or UN General Assembly.
- The current suspension of Mali from ECOWAS and the AU (as of July 2021) presents an important research opportunity to better understand how disaster risk governance and disaster recovery processes function in absence of a country's membership of regional, continental and international groupings. This could be regarded as an important learning opportunity, with new research commissioned to better understand the impact on the national disaster risk management entities and UN agencies continuing to support DRR, through to local efforts to continue seeking risk reduction outcomes. Such research may help shed light on what happens when political upheaval up-ends disaster risk governance arrangements. This, in turn, may help to inform new approaches to supporting continued DRR and disaster recovery outcomes in contexts where government is not the primary entry point; a challenge for many countries contending with political change, which is largely unaddressed by current DRR guidance (see Peters, 2019).

Craft a conflict-sensitive Malian PDNA

- PDNAs have been used as entry points for disaster recovery in Mali, with training on the PDNA methodology and its implementation in the 2019 floods. As a concrete and actionable method, the PDNA should continue to be considered a useful entry point for disaster recovery across the country – however, it remains a component of a broader disaster recovery process that is yet to be realised. Building on the 2019 experiences, the Civil Protection Directorate could consider how to adapt the methodology for use in areas affected by natural hazard-related disasters that also contend with violent conflict – something GFDRR would be well placed to support given their renewed focus on conflict contexts. This could be considered a preparatory action for future disaster recovery processes. Ideally, such an exercise would leverage the expertise of peace and conflict specialists, thus piloting more collaborative recovery processes to bridge the HDP cadre. If successful, the PDNA tool may not only be adapted for use in Mali’s conflict-affected regions, but it could also incorporate aspects of conflict prevention and management. An adapted PDNA of this type would be immensely valuable for use across the West Africa and Sahelian region.

Adapt social protection mechanisms to conflict contexts

- Further research could be commissioned to explore how social protection efforts in conflict-affected areas can be scaled up and adopted systematically in the aftermath of disasters. Research should draw on successful ‘nexus’ experiences in other countries – connecting HDP initiatives – to identify the best possible institutional, legislative and policy set-up to ensure that change is sustained over time. Research on social protection in conflict-affected areas produced by the European Commission (EC) (Smith and Kuehlke, 2019) indicates that Mali’s basic services access strategy can be adapted to the complexity of conflict-affected areas. Numerous humanitarian efforts to increase physical access and address financial constraints to improve the provision of basic services to vulnerable populations are also proving effective. The EC study recommends the institutionalisation of social protection standards, by adapting national service provision schemes to the specific conflict-affected areas (Smith and Kuehlke, 2019). The practical recommendations included in the case study deserve special attention, as they aim to apply fundamental humanitarian principles and best practices to the design and adaptation of national development programmes, in line with the HDP nexus. If such a service is extended and improved, integration of natural hazard-related vulnerabilities and impacts could be explored as a complement to the current focus on access to basic service provision, encouraging a broader perspective on shocks and stresses that affect at-risk communities in conflict contexts.
- Informed by the findings from the research outlined above, national and regional social protection actors may want to prioritise exploring the feasibility of leveraging additional financial and technical partners to expand the geographic scope of the Emergency Safety Net Project (*Jigisemejiri*) to other high-risk areas. The possibility of implementing similar safety net programmes in recovery settings could also be explored. Relatedly, Mali (among other countries in this study) is well placed to trial adaptations to the current safety net project to be more shock-responsive, which offers opportunities for mitigating the impact of disaster events. For example, shock-responsive payments could be trialled, learning from the experiences of other Sahelian countries and those of the Red Cross Red Crescent Climate Centre’s work on forecast-based finance (Wilkinson et al., 2020).

- UNDP, in collaboration with donors and development partners such as those part of the Risk-informed Early Action Partnership (REAP) (IFRC, 2020a), could build on existing research by Wagner and Jaime (2020) to identify disaster risk financing mechanisms currently used in the African region with the potential to be adapted to a Malian context; including, for example, recovery and resilience funds, sovereign disaster risk financing and risk pools, and forecast-based finance. This could help to expand the range of options currently considered as viable means of financing DRM and disaster recovery actions, and could be part of a broader global ambition to trial and demonstrate the benefits of disaster recovery interventions across the HDP nexus in different operational contexts.

Disaster recovery in Mauritania

Progress and achievements

Mauritania is a member of the League of Arab States, Arab Maghreb Union (AMU) (it is not a member of ECOWAS) and is part of the AU. The country has adopted the Africa Regional Strategy for Disaster Risk Reduction (ARSDRR) (AUC et al., 2004) and accompanying PoA (AUC, 2017) in alignment with the Sendai Framework. All of these have distinct disaster recovery components (see regional section below). Mauritania is also guided by the Arab Strategy for Disaster Risk Reduction 2030 (UNDRR, 2018), which includes a specific objective to ensure that ‘disaster risk reduction measures are integrated into post-disaster recovery and rehabilitation processes’ (UNDRR, 2018: 22).

Mauritania has a National Disaster Risk Management Strategy (République Islamique du Mauritanie and UNDP, 2007) under the jurisdiction of the Directorate for Civil Protection, although disaster recovery is widely considered to be underdeveloped. Where it exists, disaster recovery is largely orientated around the delivery of a PDNA, or similar tools. Several assessments have been conducted in recent years. In 2019, following extensive floods that affected several provinces, the Mauritanian Red Crescent led a multi-agency PDNA involving non-governmental organisations (NGOs), UN agencies and local administrative authorities. The PDNA documented the impact on affected households and damage to infrastructure and physical assets (IFRC, 2020b). More recently, in 2020, the local authorities in Hodh Ech Chargui regions (*wilaya*) established a ‘damage assessment commission’ to carry out a needs assessment to determine response and recovery priorities (IFRC, 2020b).

The 2015 baseline compiled for this assessment revealed some piecemeal efforts on recovery. Notably, the joint education sector contingency plan of the Ministry of Education and the United Nations Children’s Fund (UNICEF) includes a strong component of emergency response and early recovery activities targeting children and youth (Badji et al., 2014).

A positive development since 2017 has been the adoption of the 2018–2022 Partnership Framework for Sustainable Development (CPDD) (UN and Islamic Republic of Mauritania, 2018), which facilitates harmonised UN/NGO support to the government and integrates humanitarian and development planning. The CPDD provides the flexibility to develop event-specific response plans, promotes access to livelihoods and food security, and includes a specific workstream on strengthening DRR and early warning systems (EWS) (Humanitarian Response, 2019). The geographic convergence of the CPDD in highly vulnerable areas (Hodh Ech Chargui, Guidimakha and peri-urban Nouakchott) and its specific multi-agency sustainable solutions for the refugee situation have the potential to yield significant recovery dividends.

Today, Mauritania continues to contend with recurring natural hazards, irregular rainfall, and repeated droughts and floods, which affect food production and prices. Like other countries in the region, Mauritania hosts large numbers of refugees (Avril, 2021), whose return is contingent upon restoring peace and security in northern Mali.

In theory, the requirement for disaster recovery, or at least the impacts and needs following disaster events, can be reduced by effective DRM and resilience-building. Several leading development policy frameworks are contributing to resilience directly within Mauritania, which, if delivered, would have a tangible impact on ex-post disaster recovery processes, as baseline vulnerabilities and risk profiles would be fundamentally improved. For example, the Environment and Sustainable Development National Strategy 2017–2021 and its Action Plan (République Islamique du Mauritanie, 2017) are heavily focused on: mitigating urban pollution; preventing coastal erosion that is threatening Nouakchott; preventing the emission of hazardous gases; and reinforcing early warning for and response to disasters. The Strategy also has a dedicated Thematic Area on reinforcing ‘knowledge management’ of environmental risks (République Islamique du Mauritanie, 2017). Similarly, the 2018–2023 International Development Assistance Country Partnership Framework (CPF) (World Bank, 2018) captures the necessity to focus on long-term investments to reduce the vulnerability of rural and urban populations to the effects of climate change. The current CPF ‘emphasizes adaptation to the effects of climate change and building environmental resilience, as well as macroeconomic stability to ensure economic resilience’ (World Bank, 2018: 2).

In 2020, the African Development Bank (AfDB) approved additional grant funding under the Africa Disaster Risk Financing programme (ADRFi, 2020). In partnership with the African Risk Capacity (ARC), the funding will be used to provide technical and institutional support to enhance in-country capacity to strengthen resilience to drought-linked disasters, and to establish an index-based insurance facility that can support forecast-based early response to communities affected by disasters.

Challenges and barriers

The concept of post-crisis recovery is still not articulated in Mauritania’s policies and practices, and this is notable from the lack of reference to concepts such as ‘build back better’ and the lack of mainstreaming of resilience-building investments in disaster-affected areas. There is no guiding document on disaster recovery for the country, and few references to the recovery processes in the strategic and operational documents analysed during this study. These findings reflect the embryonic nature of disaster recovery conceptually and operationally across the country and the wider region. Furthermore, regional forums and mechanisms, and entities such as UNDRR and the League of Arab States, have thus far been relatively silent on what disaster recovery processes or ambitions could look like for countries across the region.

The Mauritanian national disaster risk management system and national crisis management centre remains strongly focused on disaster relief coordination. This assessment has highlighted the necessity of furthering the integration of humanitarian and development planning processes, including the elaboration of a national recovery framework adapted to the local risk context. Similarly to other West African countries, closer linkages in Mauritania between humanitarian action and resilient recovery have the potential to better reflect local risk realities, to unlock programmatic synergies and to achieve more optimal results for the most vulnerable. How this can be achieved in practice requires significant trialling of new approaches and documentation of those learning

journeys. In a high-risk context such as Mauritania, this endeavour will also require donors to adjust their risk tolerance: which means donors being willing to accept a higher rate of failure or lowered outcomes.

Despite evidence of various methodologies being employed to conduct PDNAs, there is no central repository for the data, nor any standardised protocols on data collection, analysis or storage, nor any nationally agreed or standardised methodologies. The establishment of a knowledge-sharing platform for PDNA results, as part of a broader effort to combine national DRM information systems, is a priority under the AU PoA and would be valuable to advance in the Mauritanian context.

Currently, no institution in Mauritania is legally accountable for the advancement of disaster recovery outcomes or coordination of recovery programmes. While the inclusion of disaster recovery in national legislation would be a welcome development, it is important to note that in Mauritania and the wider Sahelian region, disaster risks often relate to longer-term degradation of the environment. For example, the most important hazards are connected to the impact of declining ecosystems and climate change, aggravated by obsolete infrastructure. The expansion of the desert is making people more vulnerable to food insecurity, whilst the recurrent floods affecting Nouakchott's residents are caused by an inadequate drainage system that is inhibited by poor urban planning and coastal zone management – with flood impacts expected to worsen with a changing climate (Smith, 2016).

In a context where disasters are increasing in frequency and intensity due to longer-term climate and environmental changes, corresponding with an increasing need for emergency response capacities, the current framing of disaster recovery as a distinct concept within the remit of those concerned with DRM is arguably not the best approach. Whether intentional or not, disaster recovery, where the concept is understood, is interpreted as separate from some of the dominant topics in the country, namely humanitarian response, climate change adaptation and poverty reduction. In Mauritania, disaster recovery could benefit from being reframed under a new discourse that is more closely tied to humanitarian response for short-term recovery actions, and climate change adaptation and poverty reduction for medium- to long-term recovery actions (Former National DRR Focal Point interview, 2021).

Recommendations

Rethink the advocacy pitch, informed by a public expenditure review

The advocacy pitch for promoting disaster recovery should be reconsidered: specifically, the language, terminology and framing most likely to gain traction to achieve disaster resilience outcomes. This requires some groundwork:

- (P3 N-2) The concepts of DRR and resilience do not appear to be leading themes in Mauritania. This may be partially related to donor funding streams, which are focused on other related areas such as climate change, environmental protection, social protection and decentralisation. This does not necessarily mean that Mauritania is not investing in DRR and disaster recovery; rather, it may mean that investments are directed to other funding streams that are not tagged as DRR. A DRR/climate change adaptation public expenditure review by an independent research agency with experience of conducting such studies could allow the Government of Mauritania to better understand how public finances are organised, to tackle some of the most pressing challenges facing the country that directly and indirectly contribute to each of the Sendai Framework

priority areas, and the AU PoA Priority Activities. Using a political economy analysis, the review could seek to not only reveal funding quantities, patterns and use, but also the drivers, barriers, opportunities and incentives for the various funding flows. To be forward-looking, the study could identify potential future national and international funding sources, including opportunities from the various climate funds. This recommendation could usefully be linked to an ongoing project by the Government of Mauritania, UNDP and UNEP titled 'Project for the Achievement and Monitoring of the SCAPP poverty/Environment Objectives and Sectoral Policies in relation to the Sustainable Development Goals in Mauritania'. This project aims to support national institutions to pursue investments in growth in ways that contribute to poverty reduction and the sustainable environmental management with a gender-sensitive lens (UNDP email exchange, 2021).

- A series of papers could be commissioned which present novel framings of disaster recovery that do not use normative discourse of DRR. For example, they should articulate how disaster recovery processes and outcomes are necessary and could be achieved while using the language of climate change adaptation and poverty reduction, which arguably has more traction in the Mauritanian context. Similar recommendations have been made for Chad, thus the commissioner of the series could consider funding a small exploratory project in a sub-set of countries in order to explore what radically different approaches to advancing disaster recovery could entail.

Enhance disaster risk governance to support disaster recovery

- (P2 N-7) In conjunction with the recommendations outlined for P1 N-1, the government could use the legislative review conducted in 2016 (Lo, 2016) to assess the legislative changes needed to further include emergency preparedness and recovery in the accountabilities of the Centre for Crisis Monitoring, Alerts and Management (COVACC) and Civil Protection, and to define clear institutional roles for prevention and recovery coordination and oversight. The legislative reform could include clear articulation of responsibilities at sub-national level, and how different levels of disaster risk governance could most effectively work together.
- The Directorate for Civil Protection and COVACC would do well to prioritise further elaborating an updated National Disaster Risk Management Strategy to provide greater strategic emphasis on resilient recovery and the linkages with emergency response interventions. To inform this elaboration, UNDP could commission new empirical research on what disaster recovery frameworks and actions are viable in a context where response dominates and where disaster risk governance structures are lacking. The research should explore the potential for recovery planning processes to build stronger linkages across response–recovery and climate change adaptation and development interventions, and the more difficult operating environments, such as those with high levels of Malian IDP populations.

Trial sectoral good practice guides on disaster recovery

- UNDP could consider enlisting Mauritania as a pilot case for the draft strategy tool for their work on 'Integrating DRR and CCA into Development' (UNDP, 2020b) to align and strengthen coherence across different climate adaptation and development policy frameworks under a shared community-resilience objective. Mauritania could also be proposed as a suitable candidate to the informal UNDRR Bonn convened Group of Experts seeking to enhance the concept of 'comprehensive climate and disaster risk management' through better alignment of climate change adaptation and disaster risk reduction laws, policies and plans, in line with the

REAP Target 1 (IFRC, 2020a). Through enhanced alignment, increased understanding and action on disaster recovery should be sought; whether this uses the language of disaster recovery or not should be a secondary concern.

- There is a need to pilot different ways to demonstrate the practical links between relief and recovery processes. UNDP, in partnership with IFRC and relevant government stakeholders, could seek to operationalise the relief-to-recovery continuum – as described in UNDP’s conceptual approach to recovery (UNDP, 2019a) – through pilots in a range of localised emergency response plans and disaster contexts. Pilot projects can be used to gain practical experience of how transitions work in practice in different hazard contexts in Mauritania, which in turn can inform the development of appropriate good practice guidance for scaling out this link across the country.
- The Mauritanian Red Crescent, in partnership with COVACC, could select a sub-set of priority sectors to be the target of internal advocacy on disaster recovery. Specifically, a set of basic, sector-specific how-to practice guides could outline a step-by-step process for building principles and practices of resilient recovery into emergency response planning and delivery. These could be trialled and refined, and with sufficient testing shared with other countries in the Arab States and Sahelian region as an example of good practice. Consideration should also be given to devising a set of practice guides for different emergency response contexts, including where natural hazard-related disasters occur in violent conflict contexts, and contexts with high numbers of IDPs.

Use COVID-19 recovery processes as an entry point for disaster recovery to a broader range of hazards

- In the context of the current COVID-19 pandemic and reflecting the interconnected nature of systemic disaster risk, UN agencies could utilise post-COVID-19 recovery processes to enhance Mauritania’s in-country institutional recovery capabilities and, in doing so, aim to strengthen resilience to a broader suite of shocks and stresses. Specifically, given the IDP and refugee population in Mauritania, this could be a useful case for UN agencies such as UNHCR and UNDP to explore how recovery processes for biological hazards (which fall under the remit of the Sendai Framework) are enacted in the context of hard-to-reach and marginalised IDP and refugee populations. Where viable, UNDP should integrate concepts of DRM into those COVID-19 recovery processes with IDPs and refugees. Similarly, UNICEF and UNDP could explore how COVID-19 response and recovery processes could integrate risk communication on flood preparedness, given the risk of heavy rains in flood-prone areas (UNICEF, 2021).
- (P4 N-4) WHO (2017) has previously recommended the development of a specific multi-health public health emergency and response plan. Capitalising on the availability of external donor funding for post-COVID-19 recovery processes, the government, in collaboration with the UNCT, could attempt to secure funding to enable this recommendation to be pursued and extended to include elements of recovery.

Explore the potential for shock-responsive programmes to enhance disaster recovery processes

- The Ministry of Environment and Sustainable Development, Directorate of Civil Protection and COVACC, with support from UNDP, the Red Cross Red Crescent Climate Centre, the World Bank and AFD, could advocate for the establishment of a national mechanism for shock-responsive resilience programmes, targeting high-risk areas affected by disasters to boost recovery efforts. The social safety net programme included in the 2016–2030 Strategy for Accelerated Growth and Shared Welfare (*Stratégie de la croissance accélérée et de la prospérité partagée*, SCAPP) is a

good example of a programme that could be re-adapted to become disaster shock-responsive (République Islamique du Mauritanie, 2015).

- In support of the recommendation above, it should be noted that shock-responsive development programmes are included in the 2018–2023 CPF for the Islamic Republic of Mauritania (World Bank, 2018). The World Bank could draw lessons from the implementation of such programmes to show how flexible re-allocation of resources to crisis-affected areas can be an effective tool to support a timely recovery.
- Relatedly, shock-responsive programmes would do well to place gender empowerment at their centre, and conditionalities for funding should secure meaningful commitment from all partners. The Ministry of Environment could request support from GenCap (an inter-agency partnership to support gender capacity-building in humanitarian settings) to ensure that sustainable capacity is embedded within the Ministry and the Directorate of Civil Protection.

Disaster recovery in Niger

Progress and achievements

Niger established a National Mechanism for the Prevention and Management of Disasters and Food Crises (*Dispositif National de Prévention et de Gestion des Catastrophes et des Crises Alimentaires*, DNPGCCA, and later *Dispositif National de Prévention et de Gestion des Crises Alimentaires*, DNPGCA) in 1989 under the Office of the Prime Minister. Over time, with donor support, the DNPGCA has been strengthened and expanded to include EWS, prevention, social safety nets and humanitarian aid coordination (UNDP, 2019a). In 2016, the government established the Ministry of Humanitarian Action and Disaster Management (*Ministère de l'Action Humanitaire et de la Gestion des Catastrophes*, MAH/GC) and a National Plan of Action for Capacity Development for Disaster Risk Reduction (CADRI and République du Niger, 2016). DNPGCA works with the General Directorate of Civil Protection to operationalise its work through the National Multi-Risk Contingency Plan (*Plan national de contingence multi-risque Niger*) (République du Niger, 2013), which is primarily financed through the donor-funded Support Plan for Vulnerable Populations (Senior Expert Consultation, 2021).

Niger's national disaster management policies and plans are in alignment with the ARSDRR (AUC et al., 2004) and current implementation plan (AUC, 2017), the ECOWAS Disaster Risk Reduction Plan of Action 2015–2030 (ECOWAS, 2016) and, more recently, the ECOWAS GSAP (ECOWAS, 2020a), all of which have a recovery component (see regional section below). To facilitate the implementation of these frameworks, UN agencies, IFIs and development partners have supported a range of programmes to increase national and local DRM capabilities and improve Niger's disaster and climate resilience. For example, UNDP's project BCRR 2018–2020, funded by Luxembourg Aid & Development, has trained government officials and practitioners in disaster recovery and PDNA (Luxembourg Aid & Development and UNDP, 2019; UNDP recovery specialist interview, 2021). This has included work to adapt the PDNA methodology to Niger's national context. The medium-term aim is to establish a pool of national recovery experts with the competencies to initiate and manage disaster recovery processes internally. Currently, PDNAs and linked recovery planning are heavily dependent on external technical expertise (UNDP recovery specialist interview, 2021).

Similarly, the GFDRR-administered Building Disaster Resilience in Sub-Saharan Africa Programme 2015–2020, funded through the ACP-EU in partnership with the ECOWAS Humanitarian Affairs and Disaster Management Division, has implemented activities to build Member State capacities in PDNA

and recovery planning (AU et al., 2018). As noted in previous country sections, ECOWAS, in collaboration with AGRHYMET, has also led the development of a regional strategy for flood management in West Africa 2020–2025 to improve the effectiveness of responses to floods (ECOWAS 2020b). There are also financial mechanisms in place to support post-disaster recovery processes. For example, Niger has sought to transfer sovereign risk by purchasing drought insurance through the Niger – Africa Disaster Risk Financing Programme (ADRFi), in partnership with ARC (ADRFi, 2020; ARC, 2020).

Significantly, in recognition of the major challenge of recovery financing, discussions have been initiated in Niger to identify appropriate public and private funding mechanisms to plan and implement sustainable recovery processes (UNDP, 2020a). As part of efforts to develop financial mechanisms for disaster recovery, a workshop on index-based insurance was held in 2019 to learn from the experiences in neighbouring countries and to consider the feasibility of expanding microinsurance products to Nigerien farmers.

The importance of strengthening community-level resilience capacities has become a key element of the DRR programmes in the Niger region. The UNDP BCRR phase II project (Luxembourg Aid & Development and UNDP, 2019) has a specific output to enhance capacities for implementing recovery at the community level. This involves training communities to develop community-based recovery plans and setting up financing mechanisms for recovery at the community level. The Framework of the ACP-EU Natural Disaster Risk Reduction Programme (which ran through to July 2020) also had an objective to strengthen community resilience, although recovery planning was not an explicit component of this programme (ACP et al., 2017).

Niger has considerably strengthened its capabilities in risk prevention and management. However, to date, the government’s policies have been mainly centred on emergency and relief actions, with a particular focus on drought and food crisis (UNDP, 2019a). This reflects Niger’s climatic and geographical proximity to the Saharan desert, which creates enormous and unpredictable risks of drought and water scarcity (UNDP, 2019b). Such risks are compounded by climate change and prolonged conflict in neighbouring countries and increasing acute food insecurity.

Given the successive political and humanitarian crisis, disaster management in Niger is likely to remain dominated by humanitarian response over the near term. However, there are several potential leverage points that offer opportunities to optimise the use of available resources and enhance recovery as a critical bridge from relief to development. For example, even during a crisis, emergency recovery can form a strategic bridge from relief to longer-term risk-informed development. As a case in point, the IFRC Emergency Plan of Action in response to the 2020 floods in Niger affecting the provinces of Tahoua, Zinder, Maradi and Dosso has an explicit outcome of restoring and strengthening the livelihoods of affected communities (IFRC, 2020c). This ‘build back better’ approach could be applied in the country to a range of sectors and crisis events, whether natural or human-induced.

There is also appetite to further develop PDNAs and disaster recovery planning processes, building on the trainings that have already taken place (Senior Expert Consultation, 2021). Specifically, this could include using the adapted PDNAs for the Nigerien context and extending these methodologies into broader processes of resilient recovery planning and implementation in the post-disaster phase.

New ways of working to effectively address the systemic nature of risk are also currently being explored in Niger as part of the Building Capacities for Resilient Recovery – Phase 2 programme (UNDP, 2019a). Emphasis is being placed on the interlinkages between the HDP sectors, and these should be monitored for insights into dealing with compound risks over the coming years.

Challenges and barriers

Over time, with the support of development partners, Niger has developed and incrementally strengthened its disaster management institutions, policies and frameworks. In alignment with regional and global strategies, this includes provisions for recovery processes. Notwithstanding the progress made, however, a major challenge lies in the conceptual, institutional and programmatic fragmentation of programmes addressing different aspects of the disaster–development nexus, together with a lack of adequate and sustained resources to develop and implement policies and plans. Moreover, Niger, like other Sahelian countries, is exposed to a vicious cycle of humanitarian crisis against a backdrop of protracted conflict, climate variability and change, and entrenched poverty, which together are eroding the capacity of communities and governments to cope with shocks and transition to a sustainable recovery.

The 2019 National Strategy for Sustainable Recovery states that ‘[o]ne of the weaknesses of Niger’s disaster risk management and emergency response system is that it is largely constituted of spontaneous interventions that answer prevalent needs’ (translated from MAH/GC, 2019). This finding highlights that post-disaster recovery is poorly integrated into state development policies and strategies and instead relies mainly on external aid and leadership. Indeed, the national state budget does not provide specific funds for disaster recovery and revised finance laws provide only ad hoc financing solutions to address disasters that occur during the budget year. Another challenge, identified in the UNDP BCRR report for 2019, is the fragmentation of national institutional frameworks for disaster response and recovery (Luxembourg Aid & Development and UNDP, 2019). To address these challenges, a joint UNDP-UN OCHA mission is facilitating discussions between humanitarian and development actors to better understand ‘new ways of working’ and support the HDP nexus (UN, n.d.; Luxembourg Aid & Development and UNDP, 2019).

It is reported that in the wake of major disasters, a working group on recovery develops recovery plans that include mechanisms to raise funds (Senior Expert Consultation, 2021). Sources of funding for the post-disaster period are cited as included in Niger’s central emergency funds, redirecting line ministry budget lines, accessing donor aid, and requesting dedicated funds for specific events from private-sector entities (Senior Expert Consultation, 2021). Funds from these sources support emergency response and immediate recovery measures; however, the financial resources needed to support sustainable disaster recovery are hard to assemble and rarely cover the whole range of needs prevalent in at-risk or affected communities. Moreover, details of the working group are hard to source, and its remit and impact is unclear.

Projects focusing on recovery are sometimes planned as part of ‘food-for-work’ or ‘cash-for-work’ programmes. Examples include initiatives focused on recovering land, expanding agricultural zones and converting areas into fruit and vegetable plantations, and setting up cross-sectoral platforms for women to access jobs. However, the implementation of these activities is anecdotally reported as being insufficiently followed up and authorities often fall short of fully supporting them (Senior Expert Consultation, 2021). Often, the desired goals are not met, and sustainable recovery largely remains unachieved.

The National Strategy for Sustainable Recovery (MAH/GC, 2019) is supported by Niger's MAH/GC. It aims to serve as a framework for recovery actions to allow formalised coordination between all partners. Among other things, this Strategy aims to enhance the coordination of the recovery process at all levels, while providing guidance on how to harmonise financing mechanisms and secure funds. The main challenge to achieving this ambition is to find sufficient and sustainable funds to support recovery initiatives at the right time (MAH/GC, 2019).

Recommendations

Craft a Nigerien approach to disaster recovery

- Through a consultative and inclusive process involving all key DRR stakeholders, the MAH/GC and DNP/GCA could be supported, with technical backstopping from the UN, to elaborate the strategic significance of disaster recovery processes to strengthening societal resilience – and have this formalised in a position paper. This would provide a Nigerien position on the value of pursuing a policy and programmatic bridge from emergency relief to risk-informed development. Included within the framing could be the value-added of action on climate change adaptation to short-, medium- and long-term recovery processes. Consideration could also be given to the value of enhancing social cohesion as part of recovery processes, as articulated by UNDP (2016), and peace experts brought in to help craft the framing in ways that are conflict-sensitive.
- Once a Nigerien position paper has been developed, building on the findings from this report, a more detailed mapping of the country's disaster risk governance institutions, policies, strategies and mechanisms could be undertaken to articulate the mandate, remit and contribution of each to achieving strengthened disaster recovery processes for the most prominent disaster risks.
- UNDP could consider drafting a short briefing paper explaining the conceptual and practical contribution of climate change adaptation to disaster recovery processes. Using this briefing as a guide, the UNDP Niger Country Office, in collaboration with the Office of the Prime Minister, the United Nations Framework Convention on Climate Change (UNFCCC) and UNDRR, could review the process for formulating Niger's National Adaptation Plan (UNDP et al., 2014; UNDP, 2018a) to identify opportunities to integrate resilient recovery more strongly into the implementation actions of the Plan. Given the growing prominence of climate change within the sustainable development discourse, the potential for crisis recovery to strengthen disaster and climate resilience should be made clearer through internal advocacy; it should also be given greater significance within climate change frameworks, such as Niger's National Adaptation Programme of Action (UNDP et al., 2014).

Expand the work on flood recovery to a broader range of hazards

- (P1 N-6) Building on the development of the post-flood recovery plan in 2017 (République du Niger and PNUD, 2018), and follow-up training in 2017–2019, UNDP is well placed to continue to engage in disaster recovery issues across the country, expanding the range of hazards where disaster recovery plans are discussed and designed. To overcome the limitations of the post-flood experiences, flexible funding should be sought by DRR actors in advance so that if/when a disaster occurs, the post-disaster recovery plan can be delivered, thus providing motivation and renewed trust in the process. This will likely require a new flexible funding arrangement with one of the main bilateral donors in Niger, such as AFD, among others, and could be pitched as an opportunity to trial a new and innovative way of working that bridges the humanitarian–development divide. If effective, this trial could be rolled out to other hazards across additional

countries in the Sahelian region, focusing on contexts where UNDP has already invested in foundational elements of disaster recovery, such as one-off PDNAs and trainings.

- The MAH/GC, in collaboration with UNDP and GFDRR, could commission research to assess what aspects of the current disaster risk governance arrangements, policies and strategies sufficiently incorporate disaster recovery. They could also assess whether national guidance on undertaking PDNAs and DRFs would help raise visibility for the topic and generate interest and inclusion, or whether small adaptations to the existing policy landscape to incorporate language on disaster recovery would be more impactful. Either way, it is likely that further technical guidance needs to be provided to translate well-intentioned statements into changes in the way that programmatic approaches are designed and how tools are applied, to ensure they suitably link the response–recovery interface and thus improve the coherence and complementarity of different disaster management interventions.

Link methodologies for disaster recovery assessment and analysis with those of risk-informed development

- Building on UNDP’s previous efforts to adapt the PDNA methodology to the Nigerien context, UNDP could use the forthcoming PDNA project (UNDP email exchange, 2021) to support further modifications of the PDNA methodology; specifically, to introduce complementary causal analysis into the process, to encourage users to better understand underlying risk drivers that have led to the current crisis and those that need to be addressed or modified with the resilient recovery process. This could help to bridge the current recommendations to ensure that disaster recovery is based on a high-quality and timely assessment of losses, damages and needs (UNDP, 2016), together with UNDP’s articulation of risk-informed development, which asserts that deeper analysis is required to better understand and act on risk drivers (Opitz-Stapleton et al., 2019).

Integrate planning for disaster recovery into existing risk information mechanisms

- (P2 N-7) To deliver on its broad DRR mandate, the General Directorate of Civil Protection (*Direction Générale de la Protection Civile, DGPC*) should be encouraged to expand the information included within its daily bulletins and alerts, to include a greater focus on risk creation, risk mitigation and pre-planning for disaster recovery – with the aim of moving towards a more risk-informed decision-making ethos. Noting the value of taking a risk-informed approach to development (see Opitz-Stapleton et al., 2019), further work is required to embed these ideas within the daily operational approaches of civil protection entities. There is an immediate need to conduct further research to better understand what aspects of risk-informed development appeal most to the DGPC, and what narratives and advocacy are most impactful, and, based on this, to devise a plan of engagement to help upskill and enable the DGPC and sectoral ministries/institutions who have a remit on disaster recovery to define their own Nigerien interpretation of the concept. In time, it is hoped that these ideas will encourage a holistic approach to multi-hazard risk-informed decision-making: shifting away from risk management and towards a broader interpretation of risk reduction.

Continue to build DRM plans and capacities, including at the sub-national level

- While not a new recommendation, it remains important to stress the need to continue investing in building the structures and capacities of sub-national DRM entities to understand, plan and enact disaster recovery processes. The IFRC and Niger Red Cross are well placed to continue

such an undertaking, enhancing community-based disaster preparedness plans and associated mechanisms and structures to ensure they are enacted as the need arises and to further enhance technical guides to improve emergency response and recovery as complementary actions within an integrated disaster management cycle.

- There is currently a lack of practical examples of what immediate, medium- and long-term recovery processes entail in the Nigerian context. To address this, UNDP, in collaboration with UN OCHA and relevant sectoral agencies, could identify and pilot three to five recovery interventions in different crisis settings, and in doing so aim to better understand how to strengthen coherence across the HDP (and climate) nexus in Niger. These examples should be documented, with lessons from each feeding into the next, creating a cumulative learning cycle.
- The MAH/GC and Office of the Prime Minister, in collaboration with ECOWAS and UNDP, could extend the training and capacity-building currently provided to further explore the nuances of short-, medium- and long-term recovery processes, and the links between relief, recovery and risk-informed sustainable development. Drawing on the lessons derived from the pilots proposed above, consideration could also be given to what the localisation of these transitions looks like in practice, and how sub-national and national institutions can support rather than undermine local actions.
- In collaboration with the Office of the Prime Minister and relevant line ministries, the World Bank, ARC and interested donors, could commission research to identify potential financing options to harmonise and provide the adequate and sustained resources needed to incentivise innovative programming on disaster recovery across the HDP (and climate) nexus. The financing options considered could include central budget support as well as external finance – including exploring how disaster risk financing actors such as ARC might offer opportunities to integrate resilient recovery processes into sovereign and regional risk insurance mechanisms.

Disaster recovery in Nigeria

Progress and achievements

Nigeria has a National Disaster Management Framework (NDMF) under the direction of the National Emergency Management Agency (NEMA) that describes how local, state and federal government can work together across multiple stakeholders to respond and recover in the event of a disaster (NEMA, 2010). NEMA is responsible for developing and maintaining the NDMF, which is intended to be used in conjunction with other federal agency emergency operational plans, as well as other governance arrangements such as Memorandum of Understanding (MoU) with federal agencies and private organisations. Under the NDMF guidance, states and local government are encouraged to develop their own response plans. UNDP's Baseline Study on Disaster Recovery in Africa 2019 (UNDP, 2019a) reported that 32 of Nigeria's 36 states had established DRR agencies.

NEMA serves as the secretariat and coordinates the activities of the National Platform for Disaster Reduction, which comprises government ministries and departments, civil society organisations (CSOs) and development partners. The National Platform, with support from UNDP, has developed a National Plan of Action for Disaster Risk Reduction, in alignment with the Sendai Framework (EnviroNews Nigeria, 2019; Mashi et al., 2019). The National Platform aims to meet regularly and is working to review and update the action plan (UNDP, 2019a).

The NDMF is designed as a comprehensive risk management framework that includes aspects of disaster risk mitigation, preparedness, response and recovery, though its implementation faces

considerable challenges. A 2012 assessment by the Capacity for Disaster Reduction Initiative (CADRI) found post-disaster damage and needs assessments to be limited due to capacity constraints in undertaking assessments, and a lack of a systematic approach to coordinating such assessments. If they were conducted, PDNAs were only undertaken for ‘...isolated incidents by scattered agencies without coordination’ (CADRI, 2012: 21).

The 2012 flooding resulted in 360 deaths, 4 million displaced persons and US\$17 billion in damages (GFDRR, 2014). The severity of the situation led to the Government of Nigeria, working with the World Bank, EU and UN, to undertake a PDNA, which indicated around US\$7 billion was required for recovery funding (GFDRR, 2014). At the time, the GFDRR Guidance Note for Conducting Post-Disaster Needs Assessment was used, allowing comprehensive sector-specific impact data to be determined as well as providing a set of wide-ranging recommendations to strengthen disaster recovery capacity within the country (GFDRR, 2014).

Among the positive outcomes, it has been anecdotally reported that the 2012 floods prompted a change in attitude, with the realisation that PDNA methodologies were required, and trainings were urgently needed (NEMA interview, 2021). Since then, there has been good collaboration between federal- and state-level expertise in undertaking vulnerability and capacity assessments across the six affected states, as well as establishing socioeconomic baseline data (UNECA, 2015). Among the limitations cited are coordination between stakeholders, securing financial contributions to the assessments, and verifying the credibility of the information collected from the federal and state-level (UNECA, 2015).

The 2012 floods also highlighted the need to strengthen sub-national and non-governmental capacities to undertake PDNAs. Subsequently, the Nigerian Red Cross Society trained selected staff on PDNA and is undertaking further pilots on the methodology (Nigeria Red Cross interview, 2021). The Nigerian Red Cross Society has also drafted a template on how to collect post-disaster data and how to use damage assessment checklists, providing some degree of consistency in assessment (Nigeria Red Cross interview, 2021). Similarly, the ACP-EU funded Building Disaster Resilience in Sub-Saharan Africa Programme, implemented by GFDRR in collaboration with ECOWAS, has undertaken training to enhance post-disaster recovery assessment and planning capacity (ACP et al., 2020). Complementing such efforts, NEMA has sought to build national disaster management capabilities, signing an MoU with Nigerian universities to establish Centres of Disaster Risk Management and Development Studies. Over time, the inclusion of DRR in university curricula is expected to increase the availability of skilled disaster management experts.

Informed by experiences during and following major disaster events, Nigeria’s DRM institutions, policies and frameworks have improved in recent years, particularly in regard to national response capacity. This is aided by the continued technical and financial support of regional initiatives and disaster management programmes funded by development partners. However, the broader concept of DRR remains relatively nascent, and in-country risk reduction, prevention and recovery capacities need further strengthening in the short to medium term (UNDP, 2019a; Senior Expert Consultation, 2021).

Challenges and barriers

In many respects, Nigeria is still transitioning away from a focus on emergency response towards more mature approaches to longer-term DRM and reduction. The latter requires equal emphasis on

prevention, mitigation, preparedness and recovery. To come to fruition, disaster recovery requires significant scale-up of technical, political and monetary backing and investment, from the national to local level. Despite some limited trainings on PDNAs, for example, a recurrent theme raised by all key informants (through interviews and in the Senior Expert Consultation, 2021) is the need for capacity-building on disaster recovery, and the design of action plans to enable the enhanced skills gained through trainings to have a visible impact on routine working practices.

The 2012 PDNA strongly recommended 'build back better' principles and practice to be taken forward in disaster preparedness and recovery planning processes (CADRI, 2012), but NEMA reported that it has not been able to enact this recommendation (NEMA interview, 2021). This is an area NEMA wants to strengthen, by developing proposals that provides it with the financial resources to bring in technical capacity on disaster recovery and to have the funds to design and deliver interventions informed by 'build back better' principles (NEMA interview, 2021). At present, disaster recovery is a relatively well-understood theoretical concept in relation to the immediate recovery phase of a disaster, and particularly to physical reconstruction, but it is not yet being operationalised as standard practice in post-disaster contexts (NEMA interview, 2021). The lack of progress in this regard is largely due to lack of funding (Senior Expert Consultation, 2021).

There is a belief among civil society actors that the concept of 'build back better' is not fully formed within the country, and there is no clear vision or examples from the government as to what this means in practice, particularly for disaster recovery (Global Network of Civil Society Organisations for Disaster Reduction (GNDR) email exchange, 2021). According to operational staff (UNDP interview, 2021), UNDP has been effective in outlining conceptual approaches and providing broad guidance for DRM and recovery but has not been strong in identifying best practice at the sub-national and local levels and sharing this as demonstration cases at the national and regional levels – this should be addressed.

Similarly, while terms such as 'disaster recovery' are included in various documents (such as the National Disaster Management Framework (NDMF) (NEMA, 2010)), the general perception by key disaster management stakeholders is that there is a lack of understanding about what this means in practice (Senior Expert Consultation, 2021). A clearer elaboration of what a Nigerian approach to disaster recovery means, with sector-based examples, would be beneficial given the current challenges in enacting effective preparedness, response and recovery measures.

Furthermore, despite training support, a more systematic approach to conducting PDNA and planning for short- to long-term disaster recovery ambitions is still required. At present, PDNAs are not conducted systematically. For those that do take place, the information is not collated or harmonised across the relevant multiple agencies/ministries involved. Part of the challenge is that there are no standardised PDNAs in use, and NEMA reports to have its own PDNA methodology which it uses with key stakeholders (NEMA interview, 2021). Limitations thus remain and further capacity strengthening is required in data collection, analysis and response and recovery planning (British Red Cross interview, 2021). To address this, Red Cross pilots are ongoing in Imo in Lagos and Federal Capital Territory (British Red Cross interview, 2021).

Moving forward, NEMA plans to update the existing NDMF to include a broader range of threats and hazards, including COVID-19, kidnapping and banditry (NEMA interview, 2021). To date there has been no specific timeframe for review or revision of the Framework and related DRM plans: this is

reportedly done as required, when new threats emerge (NEMA interview, 2021). NEMA did, however, convey that such a review would include the UN system and all relevant agencies and stakeholders as part of a broad collaborative process (Senior Expert Consultation – NEMA contribution, 2021). This is something other agencies, specifically the Department of Climate Change at the Federal Ministry of Environment, would welcome, alongside further capacity-building on post-disaster recovery more broadly (Senior Expert Consultation – Ministry of Environment (MoE) contribution, 2021). The forthcoming implementation of Nigeria’s National Adaptation Plan Framework 2020 (Government of Nigeria, 2020) could open opportunities to forge mutual linkages between resilient recovery and climate adaptation interventions, particularly given the close relationship between climate and disaster risks. Representatives from the Africa Science and Technology Advisory Group (AfSTAG) and the National Space Research and Development Agency (NASRDA) also stressed the need for any revisions to incorporate new emergency response technology and state-of-the-art research and policy as developed through science, academia, and from other countries (Senior Expert Consultation – AfSTAG and NASRDA contribution, 2021).

Further research is required to better understand whether and how principles of ‘build back better’ and disaster recovery are adopted within the various ministries, sectors and agencies involved in the different aspects of DRM, resilience and climate change adaptation. This could be used as a foundation for crafting a realistic and budgeted set of priority actions, including ensuring that disaster recovery is an explicit focus of the NEMA ambition to develop a DRR Investment Plan for Nigeria in 2021.

Recommendations

Revise the NDMF based on a Nigerian conceptualisation of disaster recovery

NEMA, in partnership with UNDP, could promote resilient recovery as a strategic process within the NDMF. The development of a revised NDMF would also benefit from being informed by a comprehensive assessment of disaster-affected communities’ current approaches to post-disaster recovery, including, for example, self-recovery, an area that is currently relatively undocumented. To do so would also require the development of a distinctly Nigerian conceptualisation of disaster recovery, as outlined below.

- (P4 N-2) The proposed 2021 revision of the NDMF by NEMA could be preceded by a series of technical innovation workshops to increase technical knowledge and awareness of the latest global thinking on disaster recovery, to showcase examples of effective disaster recovery frameworks and practices from across the continent, and to propose a range of possible ideas for how Nigeria might develop its own approach to disaster recovery and build back better. Without such a support process, there is a risk that any revision to the NDMF will be tokenistic, with the latest terminology and phrases on disaster recovery and build back better being adopted without adequate tailoring to the current challenges and opportunities.
- (P4 N-2) Given the need to ensure that the development of a distinctly Nigerian approach to disaster recovery and build back better is realistic, and noting the current lack of formalised disaster recovery processes reaching the state and local level, it is recommended that the development of a revised NDMF could be informed by a comprehensive assessment of current approaches to post-disaster recovery taken by disaster-affected communities. This includes, for example, exploring ideas on self-recovery, which recognises that ‘most disaster-affected families rebuild their homes relying on their own resources, with little or no external assistance’ and

works with this reality to support approaches to safer self-recovery (Twigg et al., 2017: 9). The study should be devised in a robust methodological manner by a reputable research institute, and entities such as the Nigerian Red Cross Society and GNDR may offer logical partners for data collection.

Scope disaster recovery financing options

- NEMA, in collaboration with the Federal Ministry of Finance, Budget and National Planning, with technical support from the World Bank and GFDRR among other banks and donors, could articulate resilient recovery as an explicit focus within NEMA's ambition to develop a DRR Investment Plan. By extension, NEMA, in collaboration with the Ministry of Finance, could work in partnership with experts on climate and disaster risk finance to conduct a scoping study to identify viable domestic and external financing mechanisms to fund a multi-year disaster recovery process. Given the current funding environment post-COVID-19, a broad approach should be taken to explore the possibilities for securing and pooling funds from across a range of mechanisms. This includes, for example, humanitarian response, social safety net programmes, disaster risk insurance mechanisms, peace and security funds, climate change adaptation funds, private investment schemes and others. The results of the scoping study could inform the disaster recovery component of the proposed DRR Investment Plan.

Strengthen the inclusion of disaster recovery principles across the disaster risk governance landscape

- Empirical research is required to better understand whether and how principles of 'build back better' and disaster recovery are adopted within the suite of ministries, sectors and agencies involved in all phases of DRM, and to use this as a foundation for crafting a realistic and budgeted set of priority actions moving forward. This includes ensuring that disaster recovery is an explicit focus of the NEMA ambition to develop a DRR Investment Plan, on which a reinvigorated National DRR Platform could hold NEMA to account.
- Similarly, NEMA, with support from UNDP and relevant agencies and stakeholders, could review and research the potential for an updated NDMF to be accompanied with a set of practical guidance notes. The notes should clearly explain how to strengthen linkages across different stages of the disaster management cycle to support: (1) the transition from early to medium- to longer-term recovery processes (see UNDP, 2016) and, in time, (2) from relief to recovery to risk-informed development.
- NEMA, in partnership with UNDP and GFDRR, could seek to address the capacity gap identified in the baseline study on disaster recovery in Africa (UNDP, 2019a) by further enhancing the implementation capacities of local and state emergency management authorities (LEMA and SEMAs) and relevant sub-national state and non-state actors to operationalise 'build back better' and disaster recovery principles in response and recovery interventions. To be truly effective, this will require sustained investment that goes beyond the emergency management governance architecture and involves local and state development actors who have the remit to integrate aspects of recovery into longer-term development portfolios.

Adapt generic disaster recovery guidance to the Nigerian context

There is strong anecdotal evidence to suggest that the principles of disaster recovery are likely to be taken up more actively if they are adapted to the Nigerian context from the onset, with Nigerian examples that are likely to draw positive political attention.

- UNDP, in collaboration with NEMA and the National Platform for Disaster Reduction, and with support from technical partners, could elaborate on resilient recovery principles, standards and programmatic guidelines appropriate to the Nigerian context, with relevant sector-based examples across a range of disaster contexts. It is recommended that sector examples prioritise those related to the preservation and restoration of the natural environment and climate variability and change, given the willingness of the Ministry of Environment to engage with developmental challenges related to disaster risk.
- GFDRR and UNDP could review and modify the PDNA and DRF training resources provided to Nigerian DRM stakeholders so far, to place a greater emphasis on the wider recovery process, framed within a response–recovery–development continuum. The dissemination of any adapted PDNA and DRF training resources should be accompanied by a clear articulation of the rationale behind the adaptations and worked examples of the implications for use. Consideration could be given to enlisting the support of more interactive methods of teaching to bring ideas to life, such as those employed by the Red Cross Red Crescent Climate Centre that has historically used methods such as theatre, improvisation and games.

Embed disaster recovery within existing formal educational training programmes

- Technical capabilities on disaster recovery still require significant investment of time and resources. Given the established links between NEMA and several university institutions, bringing courses on disaster recovery into these partnerships would be a good way to build longer-term foundations for addressing this gap. In the medium and short term, beyond simulations of disaster response, it would be worthwhile to design collaborative simulation processes that recreate how longer-term disaster recovery plans could be designed and implemented. This will help to reveal if, and where, gaps exist in recovery plans and their delivery – whether this is sectoral, hazard-based and/or geographical.

Capitalise on COVID-19 recovery and conflict recovery processes

- (P1 N-2) Given that biological hazards fall within the remit of the Sendai Framework and AU PoA, national and external financial support (including, for example, through the World Bank, AfDB, and bilateral and multilateral donors) for dealing with the COVID-19 crisis could be extended into discussions beyond immediate response, to longer-term disaster recovery processes linked to a multi-year ambition to strengthen the primary healthcare system, in line with advice from WHO Africa (2020).
- (Disaster-conflict recovery) A thematic study is required to assess the extent to which conflict recovery processes do, or could, embed principles of DRR. There are opportunities within the existing initiatives in north-eastern Nigeria to explore the viability of such ideas, and to consider how to strengthen action on DRR through humanitarian response operations, and in the transition to longer-term recovery and stability. The study could not only identify potential avenues for enhanced action on DRM, but it could also propose intervention ideas that address disaster and conflict risks and impacts simultaneously.
- (New area) Many gaps remain in understanding, evidence and action on reducing natural hazard-related disaster risk in north-eastern States. Advancing application of DRR principles into crisis recovery programmes, applying conflict sensitivity to DRR projects, and integrating DRR into peacebuilding programmes would be worthwhile test cases for deepening the collective understanding of how to advance DRR in conflict contexts. Under existing projects, such as the UNDP Sahel Resilience Project (UNDP, 2019b), there are plans to conduct joint risk analysis with

the Lake Chad Basin Commission to bring together DRR, climate change and conflict-related risks to inform stabilisation and recovery efforts in the Lake Chad Basin, including north-east Nigeria. This could be a useful starting point for developing such a methodology, which could then be usefully applied to contexts where natural hazard-related disasters and conflicts co-exist across the ECOWAS region.

Disaster recovery in Senegal

Progress and achievements

The disaster risk profile of Senegal is dominated by the hydrometeorological hazards of floods and droughts. The country has widespread livelihood dependence on rain-fed agriculture, which is exposed to increasing climate variability and, particularly in the north of the country, to prolonged drought periods (World Bank, 2013). In Senegal's cities, exacerbated by rural-urban migration, there is increasing urban expansion into flood risk areas with inadequate drainage and sewerage infrastructure and limited flood management, resulting in recurrent seasonal flooding (World Bank, 2013). Increasing flood risk is further compounded by coastal erosion exacerbated by climate change (World Bank, 2013).

In the past few years, in response to growing disaster risks, the Government of Senegal has scaled up DRM, which sits within the Ministry of the Interior. The High Commission of Civil Protection is the guiding entity for the National Disaster Risk Management Framework République du Sénégal, 2012 while the Directorate of Civil Protection (DPC) is the coordinating entity for DRM activities, with responsibilities for the National Relief Coordination Plan (ORSEC) (République du Sénégal, 2013) and National Contingency Plan (République du Sénégal, 2008); these form the country's emergency response plans used to organise and coordinate national disaster response.

DRR has been integrated into the government's poverty reduction strategy and a cross-ministerial National Platform for Reduction of Major Disaster Risks (PNRRMC) was launched in 2008 (GFDRR et al., 2014). Senegal has also adopted the ECOWAS GSAP (ECOWAS, 2020a).

Despite these advances in the disaster risk governance architecture, it has been difficult to decipher what advancements have been made on disaster recovery specifically; as an example, there are no documents on PreventionWeb tagged 'disaster recovery' for Senegal. At the time of the assessment baseline, a report detailed Senegal's engagement with recovery and reconstruction processes since 2009 (GFDRR et al., 2014), with a focus on urban flooding. The report documents the experiences of the 2009 urban floods with subsequent PDNAs undertaken and estimations of FCFA 44.5 billion in loss and damages, as well as the 2012 urban flooding that damaged 7,737 houses and displaced over 5,000 families (GFDRR et al., 2014). The combined experiences of 2009 and 2012 prompted the Government of Senegal to adopt a 10-year flood management plan with an estimated cost of more than US\$1.4 billion (in 2014) (GFDRR et al., 2014). The initiative was accompanied by the ambition to develop a range of supporting instruments, such as sustainable financing mechanisms, a national communication plan for prevention and recovery, and extensive consultations including for the community level and private-sector entities (GFDRR et al., 2014).

There is evidence of individual projects on recovery. For example, the World Bank has provided funding to support emergency recovery and resilience to reduce coastal and urban flood risk in Saint-Louis, Senegal, to an initial value in 2018 of US\$30 million, with proposals for additional funding in development (World Bank, 2020). The project primarily finances temporary

accommodation for those displaced, planned relocation for those in high-risk areas, and urban and coastal resilience planning through various technical studies as well as aspects of capacity-building (World Bank, 2020). The proposed extension will scale up planned relocation and continue to address persistent challenges related to storm surge damage.

In 2018 Senegal hosted African regional talks on disaster recovery, with a UNDP-organised two-day workshop targeting senior officials and a three-day training on PDNA and DRF (UNDP, 2018b).

Since the beginning of the COVID-19 pandemic, UNDP and the wider UNCT has been working with the Government of Senegal to respond and consider approaches to post-pandemic recovery. This includes, for example, offering to conduct an Economic, Social and Environmental Impact Analysis to help inform decisions being made on the short- to long-term impacts and the post recovery actions required (UNDP, 2020c). The aim is to help support the implementation of the Senegal National Response Plan to COVID-19 and help prevent the regression of progress against the Sustainable Development Goals (SDGs) (UNDP, 2020c). As of April 2020, these plans still required substantial financial backing.

Senegal's COVID-19 recovery also includes the establishment of the Economic and Social Resilience Program (PRES), to the value of US\$1.6 billion, equal to 7% of gross domestic product (GDP) (Bendhaou, 2020). The PRES aims to strengthen the health system and support households and businesses while also boosting the economy.

Despite piecemeal progress, Senegal is reportedly in the process of developing a human-centred framework on socioeconomic recovery, in complement to the 2013–2014 recovery framework (Ministry of Environment interview, 2021; CADRI interview, 2021). On an institutional level, the creation of the Disaster Risk Management Centre (*Centres de Gestion des Risques de Catastrophe*, COGIC) and of the Regional Disaster Risk Management Centres (*Centres Régionaux de Gestion des Risques de Catastrophes*, RDRMC) are anticipated to help build community recovery in the aftermath of a disaster, alongside the advancement of risk management more broadly. It is also hoped that these institutions will enhance community resilience. Three regions have been identified to host Senegal's first RDRMC: Saint-Louis (in the north), Kaolack (in the centre) and Kédougou (in the south) (Koulibaly, 2020). It is also anticipated that these new structures will help strengthen multi-sectoral coordination mechanisms in the COVID-19 recovery phase at the national and sub-national level (UNDP email exchange, 2021).

While the ORSEC plans are likely to remain focused on response and preparedness for response, taking a broader conceptualisation of recovery – one that leans on the notion of resilience, existing poverty reduction and social development programmes – can also play a role in contributing to recovery outcomes. For example, the cash transfer programme targeting the poorest (the National Security Scholarship Programme), disaster relief programmes (such as reconstruction programmes implemented by the ministries responsible such as the Ministry of Flood Zone Restructuring and Planning (*Ministère de la Restructuration et de l'Aménagement des Zones d'Inondations*, MRAZI), Infrastructure, Land Development etc.), and the National Food Security and Resilience Support Programme (PNASAR). By way of example, the Jaxaay Plan developed by the Government of Senegal sought to construct more than 3,000 housing units for flood victims alongside emergency pumping systems and hydraulic drainage (GFDRR et al., 2014).

It is anticipated that specific legislation on disaster recovery will be devised (Ministry of Environment interview, 2021), as part of broader efforts such as an ongoing CADRI assessment and the process for developing a DRR strategy (UNDP email exchange, 2021). Other future developments include the creation of a disaster assessment tool to carry out recovery planning. During a workshop aimed at gathering feedback on the 2020 floods, as well as during a meeting of the United Nations Humanitarian Team (UNHT), experts expressed their frustration at not having such a tool at their disposal (UNDP interview, 2021). Furthermore, recommendations were made to establish a unit on socioeconomic recovery within the UNHT and in close collaboration with the Ministry of the Interior (UNDP interview, 2021).

Finally, under the Project Building Disaster Resilience to Natural Hazards in Sub-Saharan African Regions, Countries and Communities, a PDNA training was conducted in May 2021 under the leadership of ECOWAS with support from the UNDP, the World Bank and the EU (ACP et al., 2020). The training was attended by 33 representatives from various ministries (including the Presidency of the Republic, and delegates from ministries of the armed forces, interior, health, community development, water and sanitation, youth, civil aviation etc.) and NGOs. The training sought to build capacity in PDNA and DRF, and to demonstrate the application of both methodologies through sectoral case studies (UNDP email exchange, 2021).

Challenges and barriers

In the wake of a major disaster, it is customary within Senegal to initiate reforms and allocate funds to help victims. As such, ad hoc decisions are made on a case-by-case basis to allocate funds for recovery, and communities also raise funds in solidarity. Financing gathered in this way is largely insufficient and unreliable. While any funding is useful, overall, the volume of funds allocated does not meet reconstruction needs or the need to redesign physical infrastructure to adhere to the principles of 'build back better' (Ministry of Environment interview, 2021; CADRI interview, 2021). Moreover, funds are largely not used to help affected communities manage disaster response autonomously in the future. Generally, funds target extremely poor, highly exposed – and hence vulnerable – populations. They usually support immediate assistance, rather than disaster recovery and long-term reconstruction. Operations included as part of immediate response programmes often consist of food aid distribution and reconstruction of temporary infrastructure. Far from building community resilience and enabling authorities to effectively plan for future disasters, these are short-term measures providing immediate disaster response and aspects of short-term recovery (CADRI interview, 2021).

Often time-bound to the immediate aftermath of a disaster, such initiatives are widely regarded to have a negligible impact on Senegal's post-disaster recovery and do not enable the planning or implementation of sustainable DRR outcomes. According to experts, the infrastructure recovery framework developed by Senegal in 2013–2014 (CADRI interview, 2021) does not make adequate reference to broader disaster risk governance or management advances required to ensure reduced risk in the future. The issue of post-disaster recovery has not yet been the subject of a specific legal framework, although it is widely regarded that this is needed to identify relevant stakeholders with a mandate to act on recovery, to ensure entities are held to account to act, and to set up appropriate funding strategies to support concrete actions (Senior Expert Consultation, 2021). This challenge has been recognised and anecdotally it has been noted that there are ongoing discussions on how to pool resources to establish a recovery framework that would target the most disaster-prone areas.

Specifically, following the 2020 floods, discussions have been held on advancing a national recovery policy by the Government of Senegal in collaboration with partners including UNDP (CADRI interview, 2021). However, progressing these discussions to a broader constituency of DRR stakeholders is revealing the need for national coordination on DRR to be substantially improved.

The challenge ahead is to move away from the focus on individual initiatives prompted by disaster events and towards a systematic approach to disaster recovery that is pre-planned, addresses risk holistically, and clearly follows a pre-agreed vision for Senegalese disaster recovery wherein each stakeholder has a part to play, and funds and capacities to deliver their responsibilities. Planned recovery operations will also require the establishment of efficient coordination mechanisms and willingness to pool available resources to achieve a common end goal.

Recommendations

Make recovery an explicit part of legal and policy frameworks on disaster risk

- The High Commission of Civil Protection would be well placed to review disaster management legislation to assess where it might be necessary to include more explicit mention of disaster recovery. Relatedly, the High Commission, in collaboration with the DPC, could prepare text to be used as and when the opportunity arises, to inform the ongoing revisions and updates of DRM frameworks and relief coordination plans; and to ensure early elaboration of what ‘build back better’ and the transition from response to recovery means in the Senegalese context. In support of these efforts, continental and regional DRR actors could provide technical assistance, offering advice on concepts, terminology, and policy and legislative examples from neighbouring countries. Incentives can also be provided, such as committing to showcase any advancements that Senegal makes at the Africa Regional Disaster Risk Reduction Platform and Ministerial Conferences and Global Platform on Disaster Risk Reduction 2022.
- Related to the above, if successful, the High Commission of Civil Protection in collaboration with the Ministry of Interior could build on this success by seeking to explicitly include resilient recovery into other relevant mainstream sector policies and regulations, for example, climate adaptation, social protection and poverty reduction.
- The High Commission of Civil Protection, in collaboration with interested relief and recovery actors, could commission a policy review process to assess the potential viability and appetite for the creation of a Senegalese National Disaster Recovery Framework and associated policy. Such documents, and the process of creating them, could serve as a strategic planning mechanism to build stronger linkages and facilitate better coordination across different stages of the disaster cycle. It is hoped this would also support a more systemic response to disasters and facilitate the transition from relief to recovery to risk-informed development.

Clarify existing organisational and funding arrangements

- It would be valuable for the High Commission of Civil Protection and DPC to clarify (and in some cases establish) how disaster recovery fits into the current disaster risk governance arrangements and what the mandate, commitments and responsibilities are for each relevant entity. It may be necessary, for example, to expand the remit of the Health and Self-Help Groups set up under the ORSEC Plan (République du Sénégal, 2013) to ensure recovery is explicit and integrated as part of their domain. This recommendation requires action beyond simply seeking clarity for individual line ministries, agencies and bodies. It needs to extend to changes (where

required) to the remit of departments and teams, inclusion of disaster recovery in individuals' job descriptions, and inclusion of disaster recovery processes into internal procedures.

- To support the recommendation above, a coalition of disaster recovery experts could be established to provide a call down service so that technical advice can be sought as/when required; the experts need to have experience of integrating recovery processes into the daily working practices of departments, agencies and organisations. Given that there is currently no detailed guidance on the steps required to assimilate disaster recovery into disaster risk governance arrangements, the process of doing this within Senegal would be a useful test case for the region. There would be value in setting up an action learning research project to document the steps taken and progress achieved, and to translate the insights from experience that is specific to Senegal into generic guidance notes for other countries in the region wishing to undertake similar processes.
- In complement, the Ministry of Interior and High Commission of Civil Protection could review and clarify operational procedures for using existing funding sources to finance resilient recovery. In addition, potential new sources of funding could be explored (from other programmes), such as national food security and safety nets, economic and social resilience programmes, climate change adaptation, catastrophic/disaster risk insurance schemes and COVID-19 recovery investments.
- Related to the above, regional banks and donors alongside GFDRR and the World Bank could support this process by commissioning overarching research on the parameters, rules and regulations of the primary funding bodies and funds in Senegal. For example, they could assess whether there are any barriers – or opportunities – to integrating disaster recovery into funds designed to support climate change adaptation, humanitarian response and social protection.

Use climate change adaptation, environmental management and urbanisation as entry points to pursue disaster recovery

- In an effort to integrate and pursue disaster recovery management more broadly, it is worth considering the use of other themes as entry points. This includes, for example, climate change adaptation, environmental management and urbanisation. To expand, Senegal currently receives funding from the Global Environmental Facility (GEF) and Green Climate Fund (GCF), among other climate financing contributions. The design of programmes could consider integration of disaster recovery and recovery preparedness as linked to climate-related hazards. Similarly, the regular flooding of towns and cities can also serve as a strong argument to utilise urban planning and urban management as potential entry points for DRR more broadly, and recovery preparedness planning more specifically.

Investigate whether response mechanisms can be more amenable to disaster recovery

Further work is required to better understand whether and how disaster response funding mechanisms and operations can be made more amenable to supporting disaster recovery processes, and the transition from response to short-, medium- and long-term disaster recovery.

- (P3 N-2) In collaboration with national DRR partners, and as part of UN OCHA's role in disaster response and UNDP's interest in disaster recovery, the two agencies could fund a short, quick-turnaround assessment of the current response funding mechanisms available through the state budget, to better understand the limitations described by DRR experts in this research. The findings should aim to produce a set of actionable recommendations on how to amend current procedures to be more responsive to disaster situations. This should be accompanied by a

timeline for routine monitoring to track progress on the changes required and the impact of the changes implemented to inform any further adjustment needed to the political and bureaucratic processes of post-disaster fund disbursement.

- (P4 N-5) Related to P4 N-3, national DRR stakeholders have pointed to the lack of training and research on monitoring and evaluation of response mechanisms. This acts as a barrier to deeper understanding of what works and what does not in humanitarian responses across the country. Empirical research should be commissioned to assess the effectiveness and limitations of current responses to a sub-set of disaster events (including, for example, the 2019 and 2020 floods, and the 2020–2021 COVID-19 crisis) to better understand the baseline for action. The findings could be shared in a series of dialogues at a national and sub-national (in the affected areas) level to encourage greater discussion on the way response is currently delivered and the opportunities and incentives to take a broader approach to risk management. This broader approach could include guiding participants to better understand the need to directly link the effectiveness of response interventions to the effectiveness of disaster recovery.
- (P4 N-5) Regarding the recommendation above, to aid the encouragement of key DRR stakeholders to consider the need to pre-plan for disaster recovery, an empirical study is required in a sub-set of five or six disaster events in Senegal – from different regions, different hazard events and different levels of investment in recovery – to demonstrate any differences between self-recovery (where affected households recover independently of any external support – see Twigg et al., 2017) and planned recovery measures (to the extent that they exist within Senegal). The study could explore the impacts on livelihood sustainability and economic recovery, well-being and social dynamics. Special consideration should also be given to the differential gendered and intersectional experiences and outcomes from disaster recovery processes. The findings could be presented in a session at the upcoming Africa Regional Disaster Risk Reduction Platform and Ministerial Conference, to ignite discussion about self-recovery and planned recovery measures across the West Africa region.

Transition from a focus on PDNAs to laying the foundations for a harmonised response framework

- (P4 N-3) Capacity-building is required to enhance sectoral-specific understanding and planning on disaster response and the transition to recovery. This would complement existing work on risk reduction and proposed recommendations to strengthen contingency and response planning and action (described above and below). DRR experts have identified challenges in the lack of commonly agreed response mechanisms, lack of systematic PDNA, and lack of policies or guidance that transition from response to longer-term recovery. Drawing on its extensive experience elsewhere in the region, the UNCT, and UNDP specifically, could build on the PDNA and disaster recovery framework training carried out in May 2021 by delivering a series of sustained capacity-building sessions to enhance understanding of best practice on coordinated disaster response and effective transitions to sustainable disaster recovery. With improved knowledge and understanding among major DRR stakeholders, it should be possible to engage in a longer-term process of advocacy for the foundational mechanisms to be put in place, including (but not limited to) a harmonised multi-hazard response framework, a set of standards and guidelines on response coordination, standardised PDNA tools and methods, and pre-prepared disaster recovery plans that are automatically activated following response operations.
- Senegal’s national and regional DRM centres (COGIC/RDRMC) may want to enlist the support of the UNCT and UNDP to identify project planning and implementation processes that could

support a more holistic DRM approach; one that specifically links emergency preparedness, response and recovery measures and in doing so actively seeks complementarity across the disaster management cycle. The UNCT could view this as an opportunity to trial pragmatic approaches that bridge the humanitarian–development divide. To support this process, DPC, with support from UNDP, will likely need to provide COGIC and RDRMC with training, capacity development support and financial resources on the concept of resilient recovery.

Sustained support by UN agencies is required

To achieve a sea change in Senegal’s approach to disaster recovery, sustained and financed support is required over multiple years. Initially, this means harnessing lessons from across the region on what works, and in parallel, taking on board recommendations from the ongoing CADRI partnership with the Government of Senegal.

- (P1 N-6) Given the relative lack of experience or practice of PDNAs across the Western Africa and Sahelian region, the UNDP regional team should consider a longer-term process of engagement on the topic of post-disaster recovery tools and processes, as part of its Sub-Saharan Africa Disaster Resilience Building Programme implemented by the African Union Commission (AUC), UNDRR, the World Bank, the Global Facility on Disaster Reduction and Recovery (GFDRR) and ClimDev-Africa (UNDRR, 2021), in conjunction with other national, regional and continental partners.
- (P4 N-6) Pending the outcome of the collaboration between the Government of Senegal and CADRI, the UNCT should dedicate space to consider the emerging lessons and recommendations that are being developed by CADRI. It is likely that a set of actionable recommendations will be produced, and a financing plan will need to be crafted to take these forwards. The Ministry of Interior should be supported to devise such a plan, to ensure that the challenges experienced in other Sahelian countries can be avoided (where CADRI national capacity-building action plans are stalled owing to limited funding).

Reflections on disaster recovery across the seven focus countries

Utilising the humanitarian–development–peace nexus

In West African and Sahelian countries where both natural hazards and fragility due to protracted conflict (often compounded by climate change) are prevalent, recovery processes must consider the inter-related, multi-dimensional nature of risk in a context-specific way. In recognition of the challenges of undertaking disaster recovery in conflict-affected areas, the study *Disaster Recovery in Conflict Contexts* (GFDRR et al., 2016), together with the practice note *Joint Recovery and Peacebuilding Assessments* (EC et al., 2017) provide useful guidance on how recovery processes could be informed by the HDP nexus. Lessons learnt from the EU’s ongoing evaluation of *Recovery and Peace-building Assessments (RPBAs)* and PDNAs could further inform this approach (Jeggle and Boggero, 2018) and warrant consideration in order to move the agenda forward.

In situations where recovery continues to become more urgent, external assistance will likely continue to be dominated by increasing humanitarian needs; however, lessons from across the seven focus countries reveal that greater emphasis could be placed on building stronger linkages across emergency response–recovery processes. Such an approach would benefit from being informed by insights from the evaluation of the former UNDP-led Global Cluster for Early Recovery

(UNDP, 2018c). In line with the findings of this assessment, the evaluation found that, although important, recovery processes are a low priority for humanitarian stakeholders and receive insufficient resources and policy commitments from development actors (UNDP, 2018c).

Despite this hesitance, it is widely believed that, in the context of recurrent and protracted natural and human-induced crises, the stronger linking of response with recovery could enable response interventions to meet priority needs in a way that protects and strengthens local resilience capacities. The idea being that this would enable at-risk populations to better prepare, take anticipatory early action, withstand and recover from future disruptive events. Building linkages across response–recovery development processes is also consistent with more mature understandings of DRM (sometimes referred to as ‘integrated DRM’), which considers preparedness, response and recovery as complementary mechanisms that need to be combined in an appropriate way. Such a concept underpins the Sendai Framework and is strongly advocated by several leading DRR actors, including the EC and Swiss Agency for Development and Cooperation (SDC, 2018). It doesn’t yet have traction within West Africa and the Sahel, but could be worth exploring further.

Similarly, there are existing lessons to be learnt and re-applied. The recent launch of the Emergency Recovery Plan for the Tigray Region (ERP-T), with support from UNDP, could provide valuable transferable knowledge to the West Africa context (Tigray Administration, 2021). According to Dr Abraham Belay, CEO Interim Administration of Tigray, ‘it is essential to start recovery and rehabilitation efforts early to ensure rapid recovery and reduce the need to depend on humanitarian assistance for an extended period’ (FBC, 2021). A broad stakeholder consultation led by the Tigray Administration to review and endorse the ERP-T found that a fragmented approach to delivering humanitarian assistance, when combined with recovery efforts, is likely to run into multiple problems. The regional Senior Expert Consultation (2021) convened as part of this assessment highlighted similar problems ranging from operational challenges, including potential inefficiencies in coordination, through to fundamental challenges such as interventions with inconsistent or even contradictory visions for the future. These discrepancies will need to be resolved if more coherent approaches to disaster recovery are to be pursued.

Taking DRFs forward

More often than not, across our seven focus countries, DRR actors deferred to PDNAs and DRFs as the main tool for pursuing disaster recovery in the region. Practically, the elaboration of a DRF has potential to serve as a strategic planning tool to: link recovery processes with conflict and climate change dynamics; strengthen linkages between response and recovery to unlock synergies and optimise the use of resources; and address gaps in the current recovery legislative and institutional arrangements. However, many of the countries assessed failed to take recovery plans forward. For example, following the Government of Burkina Faso-led DRF consultation process in 2016, the development of a recovery plan was not adopted. Drawing on experiences gained from this and other cases, research to better understand the added value of national recovery frameworks, together with the constraints to their adoption, would be beneficial to advance the recovery agenda at the country level and to avoid repeating the same mistakes in the future in other contexts.

Overcoming the fragmentation of efforts on risk

Particular sub-regions within West Africa and the Sahel warrant mention. As a major disaster risk hotspot, disaster management in Chad and the adjoining Lake Chad Basin is likely to be dominated by humanitarian crisis and emergency response over the coming decade. Although the importance

of recovery is elaborated in global, regional and national frameworks, the limited integration of response and recovery activities hinders operational progress and, in turn, the support provided to affected or at-risk populations. Reflecting the complexity of the international architecture for dealing with various risks – be these natural hazards, political instability or security – in-country efforts on risk management are fragmented and are often part of different projects administered by different actors, even within the same locations or communities. This is also the case beyond Chad. Anecdotally, the fragmentation of programmes within the Lake Chad Basin region which address different stages of the disaster cycle and different hazards is reported to lead to inefficiencies and missed opportunities to use crisis response as an entry point for a resilient recovery within Chad and neighbouring countries, and to transition towards risk-informed development.

There is thus a need for greater emphasis on building linkages across the disaster cycle and working across the HDP nexus – including agencies and actors involved in stabilisation efforts. This will require response interventions to support disaster and conflict-affected populations to define and meet their priority needs in ways that reflect local risk realities and that strengthen their own coping capacities: which it is hoped would offer opportunities to deliver medium- and long-term recovery actions.

More specifically, tools designed to support conflict recovery assessment and planning processes in situations of conflict and insecurity could prove useful to disaster recovery outcomes, with sufficient adjustment. For example, RPBA tools are designed to support inclusive processes that identify the underlying causes and impacts of conflict and the support required for affected communities and government authorities, such as conflict recovery and peacebuilding activities (EC et al., 2017). RPBA instruments could be used to reshape the PDNA methodology in contexts where natural hazard-related disasters occur in conflict situations, and to encourage stronger collaboration between HDP actors to address complex risks more holistically.

Not surprisingly, the approach outlined above – to build stronger linkages across the HDP nexus and support greater inclusion of affected populations in assessment and planning processes to optimise the use of local sources of resilience – resonates with the findings of recent evaluations on PDNA and recovery planning completed by the UN, EU and World Bank (Jeggle and Boggero, 2018). Further insights are expected from an ongoing study on PDNA and recovery planning undertaken in the Southern and Western Africa region over the last 10 years (2008–2018) (forthcoming).

Addressing financing constraints

The ongoing lack of adequate resources to mature and sustain recovery management capabilities remains a major disaster risk financing challenge for the majority of our focus countries, including Mali, for example. It is often asserted that increasing the linkages between response and recovery processes holds potential to increase the impact of aid, although this remains anecdotal and further research is required to better understand the specific benefits and nature of such impacts.

Recent innovations in other Africa regions could provide useful ideas for overcoming financing constraints, if they were to be replicated effectively across our seven focus countries. For example, the Zimbabwe Resilience Building Fund (ZRBF, 2015) is a multi-sectoral, multi-donor development initiative to increase the absorptive, adaptive and transformative capacities of at-risk communities to protect development gains in the face of recurrent shocks and stresses. The programme incorporates the use of existing safety nets to support the timely and cost-effective response to

emergencies from a resilience perspective. By way of an example, in Mali, the Emergency Safety Net Project (*Jigismejiri*) could be integrated into a future national disaster resilient recovery framework and extended to other high-risk and/or conflict-affected areas.

Similarly, the Mozambique Recovery Facility (UNDP and Government of Mozambique, 2019), established in the aftermath of Cyclone Idai and Cyclone Kenneth in 2019, is a multi-donor initiative managed by the national Mozambique Government's Office of Reconstruction (GREPAC), in partnership with UNDP. The initiative aimed to accelerate the resilient recovery of the most affected families, whilst strengthening the institutional capacity of GREPAC. More recently, in 2021, in the conflict-affected region of Tigray, the Interim Administration of Tigray and the Ministry of Finance (with support from international development partners) launched the Tigray Emergency Recovery Plan (Tigray Administration, 2021) to enable rapid recovery and reduce the dependence on humanitarian assistance for an extended period. Ideas from the GREPAC could be useful across our selected countries, to extend recovery actions from short- to medium- and longer-term recovery processes. Significantly, the Tigray, Mozambique and Zimbabwe initiatives highlight the importance of community-led actions and people-centred solutions, which to date remain relatively underdeveloped across disaster recovery processes in the West Africa and Sahelian region.

The importance of sub-national action

Although this assessment has not explored the sub-national level, it is worth noting that it is widely regarded that to strengthen the resilience of communities when resources are scarce, a society must take existing sources of resilience as the starting point and use these to the full – notably, the agency, capacities and local knowledge of disaster-affected populations. To achieve this across our focus countries will require inclusive, all-of-society approaches that actively involve affected populations in recovery assessment and planning processes. Entities such as the Red Cross Red Crescent Movement, NGOs and CSOs are well placed to make these links to the sub-national and local level and should be actively involved in the development of any future disaster recovery plans. Such representation should not be viewed as optional or 'best practice' but as necessary and paramount – in line with the localisation agenda.

As an example, notwithstanding the Government of Mauritania's efforts to strengthen community resilience and implement risk-informed development programmes that addresses underlying vulnerabilities, in the near-term Mauritania's in-country disaster management systems will continue to have a strong focus on emergency response. This is the same across most of our focus countries. Thus, in contexts such as Mauritania, it would be beneficial to use efforts to promote localisation of emergency response as an entry point for promoting locally led resilient recovery.

In another example, within the Mauritanian Red Crescent response to the 2019 floods in Bassiknou, a specific output of the Emergency Plan of Action (IFRC, 2020b: 12) was 'to provide technical support, guidance and awareness raising in safe shelter design, settlement planning and improved building techniques for affected households'. The recent flood response plans developed by the IFRC provide practical illustrations on how project design, planning and implementation can be adapted to support community resilience and how 'build back better' objectives can be incorporated into emergency response interventions. In the future, these approaches could be applied at the sub-national level across a range of hazard events. These small-scale but important actions could develop practitioners' and policy-makers' understanding of what the transition from relief to

recovery (and longer-term risk-informed development) looks like in practice. Effective action could then also be replicated across the Red Cross Red Crescent Movement throughout the region.

The climate factor

With a growing number of externally funded climate change and development interventions across the region incorporating components on strengthening disaster resilience, it would be beneficial to improve the coherence of different interventions. This is already an ambition within the AUC PoA (AU et al., 2018). Efforts towards greater coherence should be encouraged to also incorporate action on disaster recovery. In this respect, UNDP's strategy tool for 'Integrating DRR and CCA into Development' – currently under development (UNDP email exchange, 2021) – could provide a useful normative framework to guide such a harmonisation process.

There is also a need to think through how climate change adaptation fits into the conceptual and operational link between response–recovery processes, and within the HDP nexus. Across the region, it is likely that extreme weather events will become more frequent but less predictable, unfolding faster and in a more varied way. Using the recovery phase to better prepare and strengthen resilience to future climate crises has arguably never been more important. But critically there remains a need to consider transitions into and out of recovery processes that can link to climate change adaptation processes.

Political support for action on climate change presents other opportunities. In contexts such as Niger, for example, where 84% of the population are reliant on natural resources for their livelihoods – and where climate change and high population growth rates compound existing vulnerabilities – disasters, climate and security risks are closely interlinked (UNDP et al., 2014). Reportedly, strengthening resilience has become a shared objective within Niger's National Adaptation Plans and risk-informed development strategies. Therefore, 'resilience through recovery' could be a useful organising framework through which to support the transition to climate and disaster risk-informed development considering the broader developmental challenges that ensue. Likewise, the UNDP Sahel Resilience Project 2019–2022 (UNDP, 2019b), funded by Sweden in partnership with the AU, ECOWAS, UN Women and regional bodies, is an example of a collaborative initiative that explicitly recognises recovery processes as a pathway to sustainable development with a strong climate lens. This ongoing project should be monitored for its impact on national and regional disaster recovery capabilities and outcomes. Finally, climate finance also presents opportunities, if effectively linked to recovery ambitions (see later in the report).

Disaster recovery in West Africa and Sahel

Progress and achievements

The Sendai Framework emphasises the pivotal role of regional cooperation to achieve DRR outcomes and to foster more efficient planning, create common information systems, promote mutual learning, exchange good practice and implement programmes for cooperation and capacity development, particularly to address common and transboundary risks (UNDRR, 2015). The primary actors at the regional level are the Regional Economic Communities (RECs); five of the seven focus countries (Burkina Faso, Mali, Niger, Nigeria and Senegal) fall under ECOWAS, Chad is part of ECCAS, and Mauritania is part of the Arab Maghreb Union (and a member of the League of Arab States). All

seven countries are part of the Community of Sahel-Saharan States. The remit of this assessment focuses on ECOWAS, with some mention of ECCAS and the League of Arab States.

Although the role of RECs in securing DRR outcomes is still maturing, according to UNDP's Baseline Study on Disaster Recovery in Africa (UNDP, 2019a), RECs have been supporting the shift from disaster response to more proactive disaster management, encompassing preparedness, response and recovery measures. In alignment with the ARSDRR (AUC et al., 2004) and most recent PoA (AUC, 2017), both ECOWAS and ECCAS have developed sub-regional DRM strategies and policies. This includes, for example, the ECCAS Central Africa Regional Strategy for Risk Prevention, Disaster Management and Climate Change Adaptation in 2017 (ECCAS, 2017), and the outdated ECOWAS Policy for Disaster Risk Reduction (ECOWAS, 2006). These strategies have been complemented by a regional flood risk management strategy (ECOWAS, 2020b) and the ECOWAS GSAP (ECOWAS, 2020a).

To expand, the ECCAS Member States adopted a revised Central Africa Regional Strategy for Risk Prevention, Disaster Management and Climate Change Adaptation in 2017 (ECCAS, 2017). Although thin on detail, the ECCAS Regional Strategy does include mention of disaster recovery. For example, within the foreword recognition of the need to better prepare for disaster recovery is cited, as well as several ambitions on disaster recovery including under Priority 5.5 to 'Promote the establishment of emergency funds, where and as appropriate, to finance preparedness, disaster response and recovery measures' (ECCAS, 2017: 30).

The 2006 ECOWAS Policy for Disaster Risk Reduction (ECOWAS, 2006) includes reference to recovery as part of a transition in the post-disaster space towards risk-sensitive development, and of the need to prepare for effective response in order to effectively transition into longer-term recovery processes. ECOWAS plans to create the next iteration of this document, not as an updated policy but instead as a Regional Disaster Risk Reduction and Resilience Strategy for West Africa (UNDP email exchange, 2021), which offers further scope to embed and action recovery work across the region.

The regional flood risk management strategy seeks to address current flood risks and pre-empt the predictions that climate change will drive exceptionally heavy seasonal rainfall across large areas of West Africa, as well as more frequent riverine flooding with more severe impacts (ECOWAS, 2020b). The predicted increased flood risk prompted ECOWAS to lead the development of the first draft regional flood management strategy for West Africa 2020–2025 (ECOWAS, 2020b). Despite disparities in institutional and infrastructural capacity between different ECOWAS countries, the regional strategy has the potential to improve collaboration on flood risk management practices across the region, including the importance of recovery, which could be further elaborated in the current draft.

With regards to the latter, the ECOWAS GSAP (ECOWAS, 2020a) aims to ensure a gender-responsive approach to DRM across the region and by its Member States. By drawing attention to the intersectional differences in exposure, vulnerability and disaster impacts, the strategy aims to encourage more inclusive approaches to disaster preparedness, response and disaster recovery. It includes explicit recognition of the fact that 'gender-blind approaches to post-disaster relief and recovery can reinforce inequalities', stating that not only do recovery approaches need to be gender-sensitive, but they have the potential to transform unequal power relations (ECOWAS, 2020a: 2–3). Gender-responsive recovery approaches are encouraged, to address gender-specific recovery needs

over the short, medium and long term. The GSAP (ECOWAS, 2020a) states that an expert group on gender-responsive recovery has already been established, and the Plan outlines a number of future ambitions including the establishment of a DRR Fund to support gender-responsive recovery through micro-insurance.

Despite inclusion of disaster recovery in some key policy documents, the general approach across the region remains primarily focused on humanitarian response rather than sustainable recovery (UNDP, 2019a). To try to tackle this, ECOWAS and the Southern African Development Community (SADC) – with support from the project Building Disaster Resilience to Natural Hazards in Sub-Saharan African Regions, Countries and Communities – drafted guidelines for the establishment of a Community of Practice and Roster of Expert for Disaster Recovery. The project also oversaw the training of 94 experts on PDNA and DRF methodologies in Senegal, among other countries, with follow up PDNA studies in Nigeria and Senegal, to name a few (UNDP and GFDRR, 2021).

In recognition of the pivotal role that RECs play, or could play, in harmonising and enabling regional action on DRM, a plethora of multilateral agencies and development partners have been providing support to strengthen the RECs' coordination, planning and policy advisory capacities – who in turn support their Member States to translate global and regional ambitions into national disaster management policies and programmes. For example, the GFDRR-managed Building Disaster Resilience to Natural Hazards in Sub-Sahara Africa programme (ACP et al., 2020) works directly with four African RECs (ECOWAS, ECCAS, SADC and the Intergovernmental Authority on Development (IGAD)) and includes a specific component to support PDNA training and recovery planning as part of a wider effort to reduce disaster risks in the regions. Encouragingly, training initiatives have been linked to regional universities, providing an excellent way to capture and impart in-country knowledge and to build the capacity of the next generation of disaster management practitioners.

In general, there has been strong involvement from Member States in regional collaborative initiatives. Both ECOWAS and ECCAS members have been active in DRR-related ministerial conferences, policy forums, technical seminars and training workshops internationally and across the regions. This includes, for example, participation at the World Reconstruction Conferences (held back-to-back with the UNDRR Global Platform on Disaster Risk Reduction) and the biennial Regional Disaster Risk Reduction Platforms and Ministerial Conferences. Due to COVID-19 restrictions, the first virtual meeting of the Africa Working Group on Disaster Risk Reduction was held, demonstrating its continued commitment to supporting Member States' enhancement of preparedness, response and recovery capacities. The discussions understandably focused on recovery from the COVID-19 pandemic and other recent disasters such as locust infestations (AUC and UNDRR, 2020).

It is widely believed that regional events can enable Member States to build constructive relationships and trust, share experiences, increase mutual understanding and facilitate the emergence of transboundary perspectives and shared regional ambitions. Such convening and collaboration can also help to reduce the risk of Member States working in an isolated or fragmented manner. For example, the ECOWAS Hydromet Forums, which began in 2018, discuss recovery challenges (outlined further below), while more recent discussions have identified the need to establish a Community of Practice for recovery planning for the West Africa region (ECOWAS, 2018).

There is also evidence of progress on disaster recovery – directly and indirectly – that focuses on specific sub-regions. The most notable is the Lake Chad region, wherein several action plans and strategies have been devised aiming to support a range of outcomes including stabilisation, peace, risk-informed development and poverty reduction. This includes, for example, the Lake Chad Basin Commission’s 2015 Lake Chad Development and Climate Resilience Action Plan (World Bank, 2016), the AU’s 2018 Regional Strategy for Stabilisation, Recovery and Resilience (AUC, 2018) and the 2018 UN OCHA and UNDP Resilience for Sustainable Development in the Lake Chad Basin (UNDP and UN OCHA, 2018).

The Lake Chad region has also been the focus of a number of major initiatives by the G7 and partners under the broad heading of resilience and recovery – although the framing of recovery in the context of many of these initiatives is climate-fragility rather than DRM per se (Vivekananda and Bonn, 2018). As such, the focus tends to be on climate impacts, security and peace implications, and human mobility, rather than strengthening national and regional DRM institutions, policies and governance arrangements.

There has also been progress on adapting disaster recovery tools and methodologies to conflict conditions – this was a commitment within the AU PoA to develop operational guidelines on post-disaster response, recovery and reconstruction in conflict settings (P4 C-4). Most notably, UNDP, the World Bank and EU developed guidance on how to adapt PDNAs to conflict situations (UNDP et al., 2019). The adapted PDNA methodology considers current and future tensions that may be present in the post-disaster context, as a result of new resources coming into an area through humanitarian response operations or by exacerbating pre-existing divisions within a society, as well as creating new ones. The conceptual and operational lines drawn with this approach are to ensure PDNA and post-disaster and recovery operations are sensitive to conflict dynamics and ensure fair distribution of resources. It is not intended to work ‘on’ conditions of conflict, become a form of conflict analysis, nor to seek to resolve conflicts – this is considered beyond the remit of a PDNA methodology (UNDP et al., 2019).

Challenges and barriers

Despite positive progress on strengthening disaster risk governance institutions, policy landscape, and implementation of a plethora of interventions across the ECOWAS and ECCAS region, specific action on disaster recovery requires further investment of time, funds and technical expertise. Where there are references to recovery in regional documents, commitments and texts, these are largely either as part of a broad statement of the components of the DRM system (i.e., preparedness, risk reduction, response and recovery), or they refer to something other than disaster recovery processes, such as recovery from conflict and instability. Even when there are well-intentioned texts or commitments to enhance disaster recovery processes, there is often little detail on what this means in practice for regional entities or their Member States, or for sub-national disaster risk governance structures. Unsurprisingly, achieving substantial maturity of disaster recovery processes by the RECs will require sustained efforts (time and resources) to translate regional plans into tangible action and outcomes at the national and sub-national/local levels. In the interim, Member States continue to experience regular disaster-related losses and remain focused on humanitarian response rather than resilient recovery and risk reduction (UNDP, 2019a).

The conceptual understanding of disaster recovery in West Africa and the Sahelian region also requires advancement. Interviews at the country and regional level clearly demonstrate that there

are concerns that recovery tends to be conceived as a slight extension to the response phase, with descriptions of recovery activities often referring to short-term recovery at best, with little on the medium- and longer-term recovery outcomes or the transition from recovery to risk-informed development. There is also a tendency to focus on rebuilding infrastructure and assets. Yet even in the context of physical reconstruction, principles of ‘build back better’ often fall short due to technical or financial limitations and the tendency to focus on quick fixes. Opportunities to build community resilience and social cohesion – components of recovery (see UNDP, 2016) – are missed, which results in households being poorly prepared for the next disaster event (ECOWAS et al., 2019).

Regional forums help to raise issues associated with the pursuit of disaster recovery preparedness and planning. For example, since 2018 the ECOWAS Hydromet Forums have identified the lack of communication and information systems for recovery interventions as inhibiting progress across the region, along with weak coordination mechanisms, limited recovery planning funding, and the need for further elaboration and adoption of recovery policies, legislation and plans (ECOWAS, 2018). Moving forward, engagement in these kinds of forums – along with the REC and UN-convened forums and networks – would ideally go beyond discussion and lead to agreements on commitments to take action in strengthening recovery preparedness or cooperation in relevant areas.

Financing for disaster recovery is repeatedly cited as a barrier to maturing disaster recovery processes across the West Africa and Sahelian region, both in published reports and from our interviews and Senior Expert Consultation (2021). This reflects a continued challenge to ensure adequate, reliable and sustained finance for DRR from national budgets, of which disaster recovery should be a component. There are also no specific funding mechanisms dedicated to enhancing disaster recovery capabilities, except through individual projects to specific events, such as post-pandemic recovery funds. Despite repeated attempts at the African Regional Platforms and Ministerial Conferences to commit Member States to dedicated budgetary allocations to DRR, this has not been achieved (UNISDR, 2014). Response funds do exist in various guises, through national government and non-government mechanisms, although these rarely include longer-term aspects of risk reduction or recovery, which are widely regarded as critically underfunded (UNISDR, 2014; Senior Expert Consultation, 2021).

Regional organisations will continue to play a pivotal and evolving role in supporting the efforts of national governments to promote an integrated disaster management approach that places equal emphasis on disaster recovery processes. This will require regional cooperation to further elaborate the importance of resilient recovery within regional disaster management policies and plans, together with the development of recovery principles and best practices. Importantly, it will require regional entities to encourage Member States to understand the conceptual and operational implications of disaster recovery beyond conducting PDNAs and writing DRFs. It will require the regional uptake of minimum standards on disaster recovery, with dedicated financing and a genuine commitment to address the trade-offs inherent in taking more time, technical input and finances to adopt the principles of ‘build back better’ to ensure commitments on paper translate into changed practices, and eventually changed outcomes, for those at risk across the ECOWAS and ECCAS regions.

Recommendations for the West Africa and Sahelian region

As outlined below, foundational work is required, which would benefit all seven countries included in this assessment and help strengthen regional efforts towards disaster recovery.

Continue to build on ongoing investments in disaster recovery

Although not necessarily new or novel, it will remain important to continue to invest in capacity-building, technical support and programmatic interventions on disaster recovery across the region over the coming 5–10 years. This includes extending the scope of disaster recovery activities beyond the narrow focus on PDNA methodologies and drafting of DRFs, toward a greater focus on transitions: from relief to recovery to risk-informed sustainable development.

- The ECOWAS Humanitarian Affairs and Disaster Management Division and ECCAS Disaster Risk Reduction and Climate Change Adaptation Unit could seek to integrate disaster recovery more strongly within disaster-related frameworks, strategies and plans. To achieve this, internal advocacy will need to be undertaken to elaborate the role of resilient recovery processes within regional disaster management policies, strategies and plans. Initially, this could entail elaborating the place of disaster recovery as a strategic process within the West Africa Flood Risk Management Strategy and Action Plan (ECOWAS, 2020b), and ECOWAS GSAP (ECOWAS, 2020a).
- Related to the above, the intention for ECOWAS to develop a Regional DRR and Resilience Strategy for West Africa (rather than updating the 2006 ECOWAS DRR Policy) provides an important opportunity to integrate disaster recovery preparedness and planning into regional ambitions for the coming years (UNDP email exchange, 2021). A precedent has already been set as the 2006 policy includes reference to recovery as part of a transition in the post-disaster space towards risk-sensitive development. Disaster recovery experts from across the region should convene with the intention of preparing suitable text to propose to ECOWAS and Member States for inclusion in the draft strategy.
- Recommendations made through project evaluations and progress reports should be actioned. This includes, for example, the recommendations in this assessment report and in the baseline study on disaster recovery in Africa (UNDP, 2019a). The latter includes recommendations to: expand the concept of recovery to include aspects of human and socioeconomic recovery; improve coordination among actors involved in recovery processes; and improve inclusion mechanisms to enable affected populations to safeguard their livelihoods and assets in the post-disaster phase (UNDP, 2019a).

Develop a regional Disaster Recovery Capacity Development Plan

To harmonise disaster recovery efforts, a regional Disaster Recovery Capacity Development Plan should be devised, with technical support provided by CADRI, which has substantial experience in crafting such plans.

- (P4 R-3) UNDP, with financial backing from interested donors such as Sweden, Germany and France, among others, could consider designing a Disaster Recovery Capacity Development Plan focused on regional level institutions and mechanisms. Detailing capacity gaps to be addressed through technical training, as well as policy and strategy gaps to be addressed through future policy and strategy design processes, the Plan could articulate a set of viable advocacy positions to support the design of future regional policy and strategies that include disaster recovery more fully. It is advised that the development of the plan should only be pursued if there is equal commitment by the interested donor to fund at least a substantial proportion of the actions identified, to ensure momentum is maintained and to incentivise delivery. If effective, the process can be replicated in other regions where disaster recovery is nascent. The ECOWAS Humanitarian Affairs and Disaster Management Division, ECCAS Disaster Risk Reduction and

Climate Change Adaptation Unit, UNDRR and the AUC should continue to undertake advocacy and awareness-raising activities to increase Member States' understanding of the role of resilient recovery in the disaster management cycle and in the transition from disaster response to recovery to climate and disaster risk-informed development.

- (P4 R-3) A set of briefing papers could be commissioned to articulate the value-added – and, where viable, aspects of cost-benefit and return on investment calculations – of disaster recovery into sectors and themes that are directly linked to recovery, but that do not currently adopt the principles or ideas from disaster recovery experts, including humanitarian and crisis funding, and security and stabilisation initiatives (including climate security and climate change adaptation programmes). This could draw on existing work exploring DRR in the context of crisis financing and response (UNDRR, 2020). As part of a dissemination and outreach strategy, these briefings should be proactively shared with climate security, stabilisation, security and humanitarian experts – but to do so will likely require new partnerships with reputable independent research entities or think tanks already operating in those spaces.

Establish a Disaster Recovery Call Down Service and principles and standards on disaster recovery

- To provide sustained support for disaster recovery within the region, a collaboration between the regional banks and donors, alongside the AUC and GFDRR, the World Bank and selected UN agencies, could seek funding to establish a Disaster Recovery Call Down Service that provides RECs and Member States, and their National Disaster Management Authorities and Civil Protection counterparts, with access to technical support when required. The model and uptake of the service can be reviewed after a 12-month period and adjusted as required. This could build on the UNDP-GFDRR recovery project initiative for establishing Communities of Practice and Rosters of Experts for disaster recovery in the ECOWAS and SADC region (UNDP and GFDRR, 2021). Monitoring and analysis of the requests for support should take place after 6 and 12 months and should be analysed to provide valuable insight into the kinds of support RECs and governments require; this can then be used to inform future investment and programme design. The service may also be extended to include a roster of experts for disaster recovery with prearranged secondment procedures to augment recovery expertise in disaster-affected contexts.
- As part of a collaborative and participatory process, the AUC could work with ECOWAS and ECCAS to convene Member States to devise a set of principles and standards for disaster recovery. Commitment in adhering to those principles and standards could be formalised and subsequently monitored as part of the self-reporting processes of the Sendai Framework Monitor and independent routine monitoring of the AU PoA (AU et al., 2018). The design of the principles should reflect the nascent baseline of disaster recovery in the region, focusing on 'bare minimum' and 'no regrets' actions. To avoid setting unrealistic standards, illustrations of best practice and the state of the art in disaster recovery can be conveyed through inspirational case study examples, but these should not be portrayed as something that can be achieved without a significant sea change in current approaches. Sector-based examples of good practices in different operational contexts should also be provided to help readers understand the practical implications of the principles and standards described.

Establish a baseline for disaster recovery in the Arab States region

To better understand how disaster recovery can be championed in Mauritania, and the League of Arab States Member States, it is first necessary to understand exactly what types of disaster recovery interventions are happening in the Arab States region:

- UNDRR and the League of Arab States could dedicate specific sessions on disaster recovery at the Fifth Arab Regional Platform for Disaster Risk Reduction in November 2021. Similar sessions could be convened by UNDRR for the upcoming Africa Regional Platform for Disaster Risk Reduction. The aims of the sessions should be to: share ideas and experiences of disaster recovery processes among Arab States members; enhance technical capacity and understanding of what disaster recovery entails, with examples of good practice from policy-orientated and operational experts; discuss the barriers to enhancing disaster recovery in the region and brainstorm ideas for how these can be overcome; and commit to continuing the exploration of disaster recovery in the Arab States region through written commitment in the Platform's outcome document and future gatherings.
- The League of Arab States, in collaboration with UNDP and UNDRR, could commission an Arab States iteration of the 'Study in PDNA and recovery planning undertaken in Southern and Western Africa in the last ten years (2008–2018)' (UNDP, 2021). The methodology could also be informed by related work by GFDRR such as the recent study undertaken on 'pre-disaster baseline datasets for quick, effective and coordinated disaster assessment and recovery' (Tadonki, 2020). The study could aim to document experiences of disaster recovery across the region, as well as the range of rapid needs assessment methodologies employed and their strengths and weaknesses. Special emphasis should be placed on understanding whether the results of those methodologies have informed any changes to the way disaster recovery is conceived or planned for. Given that this is a nascent area of work in the Arab States region and progress is likely to be marginal, primary interviews should be employed to garner ideas on incentives to instigate a change in the prioritisation of disaster recovery in policy, strategy documents, budget allocation and operational programmes.
- Building on the relationships established during the joint Africa-Arab Platform on Disaster Risk Reduction in 2018, UNDRR could convene a small group of Member States active in disaster recovery to share ideas and experiences from across the Africa-Arab regions, and then take this learning to the Global Platform on Disaster Risk Reduction in 2022.

Address the evidence gap of disaster recovery in conflict contexts

The significant evidence gap of disaster recovery in conflict settings should be addressed through the commissioning of dedicated empirical research into formal and informal recovery processes, as well as the more conventional approach of trialling tools and methods adapted to conflict contexts.

- (P4 R-3) In many respects, UNDP is leading the way in research, policy advisory work and action on disaster recovery across the West Africa region. However, the 2019 baseline study of disaster recovery across the continent (UNDP, 2019a) deals only indirectly with issues of conflict, which is a gap that requires redress. In the study, conflict is regarded as either an impediment to recovery and an additional complexity within a broader set of socio-economic-political conditions, or it is mentioned in reference to the work of conflict-prevention experts in addressing conflict outcomes resulting from natural hazard-related disasters such as floods. A dedicated empirical study on disaster recovery could be undertaken in a range of contexts, from

active armed conflict to areas with high levels of interpersonal violence, and others. This would allow a deeper understanding of the realities of formal and informal disaster recovery processes across a sub-set of conflict-affected contexts in the West Africa region, and it could help to inform the design of future workplans to enhance recovery processes. Without such evidence, there is a risk that well-intentioned disaster recovery plans and interventions are ill-suited to the conflict context they are designed to support. The research would benefit from being conducted by an interdisciplinary team comprised of DRR and conflict-prevention specialists.

- The UNDP, World Bank and EU guidelines on PDNA for conflict settings (UNDP et al., 2019) need to be trialled in a range of different conflict settings across West Africa and the Sahel, ranging from that where interpersonal violence is common, to contexts of active armed conflict. Depending on the findings, it may then be necessary to develop more nuanced guidance for different conflict situations, and to support practitioners to adopt the guidelines by providing West African and Sahelian examples and translating the guidance into French.
- As an extension of the recommendation above, the guidance on PDNAs in conflict settings should be regarded as the first in a set of guidance documents to articulate disaster recovery in conflict settings spanning short-, medium- and longer-term recovery, and the transition from recovery to risk-informed development. Given the nascent progress in this field, developing such guidance will require investment into a multi-year programme of work. It is also recommended that more experimental and (arguably controversial) ideas be explored, including, for example, trialling a novel approach that more actively seeks to link working ‘on’ conflict (meaning seeking to alter conflict dynamics through conflict management and prevention) concurrently with natural hazard-related disaster recovery processes in conflict settings; and the conceptual, ethical and practical implications of bringing these two areas of intervention together.

Harness the political attention on climate-fragility and stabilisation to advance disaster recovery

- Donors interested in pursuing a more developmental approach to the implications of linked climate and security risks, such as Germany, Sweden and Denmark, among others, could invest in policy advisory work to articulate the relative contribution of effective disaster risk governance to securing resilience to climate-related disasters in conflict contexts. This is something Sweden has already been doing – calling for greater integration of disaster and climate change and conflict risks into ongoing programmes, which is noteworthy given their financial contributions to regional stabilisation efforts in the Lake Chad Basin region (UNDP email exchange, 2021).
- Related to the above, UNDP could partner with these donors and others to utilise its expertise in disaster recovery and articulate the potential added value of disaster recovery processes as a link between crisis response and recovery and longer-term-risk informed development processes. Specific attention could be given to the Lake Chad Basin, given the current political and donor interest in the region, with efforts to ensure that DRR is more explicitly integrated into discussions by the UN Climate Security Mechanisms, and into ongoing and future climate risk assessments in the Sahel. By extension, another useful entry point could be the UNDP Sahel Resilience Project, given their existing plans to conduct joint risk analysis with the Lake Chad Basin Commission to bring together DRR, climate change and conflict-related risks to inform stabilisation and recovery efforts.
- There is little knowledge or discussion around how the components of disaster recovery relating to social cohesion link to the ambitions of peace and conflict-prevention actors to achieve social

cohesion from a peace perspective. New empirical research could be commissioned to better understand how disaster recovery processes can be pursued in conflict settings, and what this means for working with conflict-prevention actors and achieving conflict-prevention outcomes. This could also serve to open the door to strengthening links between peace, conflict and security actors and those working on climate and disaster risks in the Sahelian region, and it could contribute to the nascent body of work on DRR in conflict contexts (see Peters, 2019).

- (P2 R-3) Building on recommendations at the country level, including in Chad, for example, there would be value in systematically pursuing information exchange between those working on natural hazards and those on stabilisation and climate security. Existing initiatives such as the UN Climate Security Mechanism provide one space for this to be pursued; and in doing so DRR actors should seek to demonstrate the potential value of DRR as a robust and pragmatic contribution to address stabilisation and climate security risks – where they relate to natural hazards – in insecure contexts. Consideration should also be given to establishing information exchange mechanisms with those focused on peace, to support the expansion of DRR operations in contexts where peacebuilding efforts are underway. Commissioning a think piece on the links between DRR and peace and stability would be useful prior to establishing information exchange mechanisms. The findings could be shared with the Africa Working Group on DRR (AWGDRR) and G5 members in particular – where so much of the climate security work is concentrated.

Pool expertise on disaster risk financing to design financing solutions for regional disaster recovery processes

Given the significant barrier that lack of reliable, sufficient and scalable financing presents to pursuing disaster recovery across the region, a coalition of experts should be convened to pool their expertise, ideas and experience on disaster risk financing and apply it to the practice of disaster recovery.

- ECOWAS and ECCAS, in collaboration with relevant donors, could commission research to explore how existing regional and national funding arrangements for holistic programme interventions could be replicated and/or modified to support disaster recovery outcomes. This includes, for example, those within and beyond West Africa and the Sahel region, such as the Tigray Recovery Plan (Tigray Administration, 2021), Zimbabwe Resilience Building Fund (ZRBF, 2015), and Mozambique Recovery Facility (UNDP and Government of Mozambique, 2019).
- It would be valuable to establish, fund and convene a coalition of disaster risk financing experts to brainstorm and trial a set of new and innovative financing mechanisms that could potentially incentivise more reliable funding for disaster recovery processes. Attention should be given to the different mechanisms that might be required to provide funds for short-, medium- and longer-term recovery actions. A broad range of potential instruments could be considered, including adapting social protection mechanisms, sovereign disaster risk financing and risk pools, climate change and resilience funds, as well as insurance and other risk-transfer mechanisms. Consideration should be given to the recommendation to explore the establishment of market-based financial products for multi-year recovery processes (UNDP, 2019a). The coalition could be organised by the AUC, with regional and sub-regional development banks participating (including AfDB, ARC etc.) and support from UN agencies (including UNDP with its Insurance and Risk Financing Facility and Private Sector Hub, and the World Bank with its experience in adaptive social protection programmes), as well as GFDRR.

- In support of the above, a sub-group could be established to explore funding avenues specific to conflict-affected contexts, such as those deriving from peacebuilding, conflict, security and stability funds. Time should also be dedicated to build on the work of REAP on adapting social protection mechanisms to conflict contexts (IFRC, 2020a), and the insights from research by Wagner and Jaime (2020) on adapting forecast-based finance to conflict contexts, to assess the viability of using such mechanisms to finance disaster recovery processes. The insights derived could help nuance and ground current discussions on financing the HDP nexus.
- Relatedly, the Sahel Alliance, in collaboration with UNDP and interested donors, could commission research to assess the funding parameters of the major climate funds to better understand the extent to which short-, medium- and longer-term recovery processes could viably be included in project and investment design. This may want to include, as a minimum, assessment of the GCF, the Adaptation Fund, and the GGEF. Consideration could also be given to whether and how such funds support decentralised climate finance and thus offer opportunities to support recovery actions at the national and sub-national level.

Recommendations for the continental and international disaster community

Many of the recommendations for the national and regional level in this assessment require, or would benefit from, broader progress made on disaster recovery by continental and international DRR experts. This means advancing the collective understanding and learning of disaster recovery processes in different settings, which can then be adapted to the West Africa and Sahel context. Suggestions include:

Interrogate how best to finance disaster recovery processes by drawing on global experiences

The implementation of PDNAs and DRFs in West Africa and Sahel has been shown to falter due to insufficient financial resources. Empirical research should be commissioned by GFDRR to better understand the viability of different funding options for financing disaster recovery processes globally, disaggregated by short-, medium- and longer-term recovery actions (more details are provided in the regional recommendations above).

Mature recovery methods and tools to place greater emphasis on underlying risk drivers

- There is a need to adjust recovery assessment methodologies and training resources to incorporate lessons learnt from PDNA reviews and to place a greater emphasis on underlying risk drivers to inform recovery planning. A simple conceptual framework could also be developed to raise awareness of the need to build strong linkages across response–recovery–risk-informed sustainable development actors and interventions, to enable resilient recovery processes to reduce the need for humanitarian assistance over the longer term. Since the PDNA methodology and its application are guided by the tripartite agreement – UN-EU-World Bank – these actors would be well placed to work jointly with other relevant stakeholders to implement these recommendations. UNDP, through its network of regional and country offices, can play an important role here too, along with national and local governments, the Red Cross Red Crescent Movement and other organisations with local presence, in advocating and supporting the application of such tools across different scales and contexts.

Incentivise humanitarian actors to undertake short- to medium-term recovery actions

- Technical guidance on disaster recovery could be developed that target humanitarian actors, complemented by case studies of recovery processes embedded within humanitarian crisis response. A global fund could be made available as an incentive to pilot the extension of

humanitarian response operations to incorporate short- to medium-term recovery actions, with transition funds available to trial better linkages to longer-term development interventions within a given area. By extension, UNDP, in collaboration with UN OCHA, IFRC and GNDR would be well placed to develop contextually relevant training resources, guidelines and checklists to increase humanitarian practitioners' ability to link response to recovery interventions.

Embed 'resilience through recovery' as a concept within climate change adaptation actions

- Existing efforts by the UNDRR Bonn Office and UNDP global team could be built upon to better link climate change adaptation plans and DRR strategies, and to develop guidance and support the application of tools such as disaster and climate public expenditure and institutional reviews. Specifically, a dedicated workstream could be established with the aim to create a bridge between disaster recovery and climate compatible development expertise and action. This work could start by prioritising advocacy that integrates principles of recovery into climate change discourse and action, and advocacy that encourages climate investments to include recovery processes. An assessment tool could also be developed that draws on UNDP's strategy tool for integrating DRR and climate change adaptation into development (UNDP, 2020b), while more explicitly promoting stronger linkages across processes of relief–recovery–sustainable development.
- Related to the above, a comparative study of DRR/climate change adaptation public expenditure reviews could be commissioned across the region to better understand how public finances are organised in relation to disaster recovery spending. Existing tools such as the DRR and climate change Public Expenditure and Institutional Reviews (PIERs) (UNDRR, 2021) could be used and/or political economy analysis – to not only reveal funding patterns but also the drivers, barriers, opportunities and incentives for funding flows. To be forward looking, the comparative study should also seek to identify future funding streams from national to international sources, and opportunities for decentralising climate finance to achieve positive disaster recovery outcomes.

Design and socialise sectoral guidance on disaster recovery

- In line with recommendations provided in this report, a catalogue of examples could be written of tools, methods, case studies and best practice of recovery processes by sector, which is then socialised with national line ministries. Strong consideration should be given to ensuring that sector-based approaches fully take into account intersectional differences (sex, age, disability etc.) to encourage greater understanding and action for differentiated vulnerabilities. In time, it should become possible to document the contribution of sector-based approaches to disaster recovery to inform and inspire others. Given its global visibility, PreventionWeb could be used as a repository to store guidance, lessons learnt and related documents on sectoral approaches to disaster recovery.

Establish south-south learning mechanisms to complement continued capacity-building

- There is a need to continue to build the recovery capacity of national practitioners through technical trainings, guidance notes adapted to different country contexts, and support to secure financing for recovery actions. In line with the recommendations provided in the regional section above, it will be important to establish global and regional networks on disaster recovery to share knowledge and ideas – including but not limited to the proposed Community of Practice (CoP) and Roster of Experts for disaster recovery in the ECOWAS and SADC region (UNDP and

GFDRR, 2021) already initiated. The network will need to be formalised and guided by a clear ToR that sets out the ambition to accelerate the operationalisation of disaster recovery processes as well as the localisation of the recovery agenda. Donors with a history of providing financial backing in the region and on similar themes, such as the EU, Germany and France, among others, will be necessary. South-south learning mechanisms could also include the establishment of an exchange programme wherein secondments following a major crisis can help to provide additional recovery capabilities during times of peak demand. Consideration could be given to ensuring these opportunities are open to a diverse group of stakeholders, including adequate representation by women.

Urgently invest in research to address the lack of evidence on disaster recovery processes in conflict contexts

- The evidence gap on climate and disaster recovery processes in contexts affected by violence, conflict and fragility is stark. This needs to be addressed to inform future investment and action on disaster recovery in difficult operating environments. Empirical research is required that explores formal recovery efforts and self-recovery strategies adopted at the local level. With empirical evidence from a range of conflict contexts across the globe, it may then be possible to develop collaborations across the HDP nexus that offer opportunities to trial linked interventions to achieve positive climate change adaptation, disaster resilience and peace outcomes.

Trial unorthodox approaches to secure disaster recovery and peace outcomes

- Unorthodox approaches to pursuing DRR outcomes, including disaster recovery outcomes, in conflict contexts have been suggested previously (Peters, 2019). These could be trialled in a range of conflict contexts – including those where gender is a significant factor shaping patterns of violence. Unlike the current PDNA guidance (UNDP et al., 2019) – which makes clear that the intention is not to work ‘on’ conditions of conflict – collaborations between DRM actors and peace specialists should be pursued to test the viability of designing and delivering disaster recovery interventions that actively seek to engage with conflict and peace dynamics. As noted previously, such work will also need to explore the conceptual, ethical and practical implications of bringing these two areas of intervention together.

Closing reflections

National governments, with the support of RECs and development partners, have made progress in establishing disaster management policies, strategies and plans in alignment with regional and global frameworks. However, although recognised as a distinct component of DRM, the strategic significance of disaster recovery is not adequately elaborated within institutional mandates and regulatory frameworks for DRR across West Africa and the Sahel. Moreover, the general lack of coherence in disaster management processes reflects the institutional and programmatic fragmentation of interventions across different stages of the disaster cycle. Significantly, none of the policy or programmatic documents reviewed place a strong emphasis on the importance of building stronger linkages across the response-to-recovery continuum, and little empirical evidence is available to substantiate what this looks like in practice.

Although needs and priorities change over the course of a crisis, effective recovery is inextricably linked to response efforts. Under current orthodoxy, the design and implementation of response interventions has been conceptually, institutionally, financially and programmatically separated from recovery. This can inadvertently lead to the fragmentation of approaches, inefficient use of

resources and, at worst, can create dependencies that serve to undermine affected people's sources of resilience, self-worth and dignity (GIDRM, 2019). In the seven countries reviewed there are no fully functioning ex-ante mechanisms in place that support sustained transitions from emergency response to recovery and through to risk-informed development. Driven by increasing humanitarian needs, the disaster management agenda tends to focus on emergency response. Among individuals with some familiarity of the concept of disaster recovery, there was a growing understanding that progress is lagging: this detrimentally impacts communities' future risk and poverty reduction trajectories.

The absence of an integrated approach to DRM and insufficient collaboration across the various ministerial departments and agencies responsible for different aspects of the disaster management cycle was repeatedly cited as leading to sub-optimum results for vulnerable populations in the recovery phase. Similarly, the lack of approaches to bridge the HDP nexus caused duplications in effort and increased transaction costs (GIDRM, 2019). In line with UNDP's conceptual approach (UNDP, 2019a), recovery processes have the potential to serve as an important bridging mechanism that can facilitate coherent working across the disaster management cycle. If the concept can be effectively translated into changed working practice, many hope action on recovery could enable the recovery phase to provide a leveraged entry point to strengthen community resilience as a shared objective across humanitarian response, risk-informed development, climate change adaptation and peacebuilding agendas.

Two different but complementary entry points

At the operational level, despite the transition towards more proactive disaster management institutions, policies and plans, national DRM agencies remain primarily focused on reactive emergency response. This, in part, reflects the protracted political and humanitarian crisis in many of the Western Sahel countries, together with a scarcity of adequate resources to build and sustain national and sub-national DRM capabilities beyond those required for the provision of humanitarian assistance. One school of thought is to use crisis response as an entry point to advance resilient recovery through the strengthening of the linkages between response, relief and recovery, with a goal to build the resilience of communities to better prepare, resist, absorb and adapt to future shocks and stresses. Thus, emphasis could be placed on how recovery can be practically applied in the emergency response phase, reflecting different local risk realities including situations of fragility, conflict and insecurity. This necessitates closer working relationships between humanitarian agencies and National Disaster Management Authorities and Civil Protection.

An alternative possibility is to more directly link disaster recovery to longer-term development and planning processes. This reflects the reality that recovery needs are inherently linked to the success (or not) of sustained DRR outcomes, the avoidance of risk creation, and the strength of ex-ante risk reduction measures including mitigation and preparedness. This requires changes of a different nature. It necessitates new or modified disaster risk governance institutions to clarify roles and responsibilities for recovery processes, and engagement of line ministries responsible for climate change, social and economic development and poverty reduction. Taking this approach, disaster recovery can be incorporated better into DRR/DRM frameworks and plans when the opportunity for revision arises, during periodic reviews and/or following changes in government.

These two schools of thought do not represent the only means through which to advance disaster recovery, but they do reflect the way in which recovery is currently conceived in the region: the

former using the entry point of crisis as an opportunity and engaging more readily with humanitarian and crisis response actors; and the latter using the entry point of disaster risk as an inherent aspect of development and drawing on mainstream line ministries, including using the political interest and funding opportunities afforded by those working on climate change adaptation and social protection.

These two avenues juxtapose current efforts to promote disaster recovery, which primarily use the entry point of disaster risk governance arrangements in a country. While seemingly logical on paper, given the nascent progress on DRR outcomes across the region, it is worth considering whether alternative entry points – in complement to using the conventional DRR stakeholders and processes – would achieve improved disaster recovery outcomes.

Moving forward, a collaborative effort will be required to advance disaster recovery processes on the scale and at the pace required to address current and future needs. Established relationships will need to be drawn upon and those with convening power enlisted to raise awareness with political and ministerial leaders, and to craft systems-wide perspectives that capture the benefits of embedding recovery processes within both humanitarian and development programmes. Given the recurrent severe resource and sustainability challenges across virtually all West Africa countries, greater emphasis on decentralised approaches to building capacities for resilient recovery will be required to delegate responsibilities between central, provincial and local levels. Decentralisation, coupled with participatory methodologies, could help ensure recovery processes are relevant to local risk realities, and importantly, harness local capacities to sustain results beyond short-term project funding and/or frequent changes in government officials or funding whims.

Common themes to advance

In closing, priority should be given to advancing common themes that recur across the seven countries and at the regional level. These include the need to:

Strengthen linkages between emergency response and recovery

Given the current focus on responding to successive crises, greater strategic emphasis should be placed on mainstreaming recovery efforts into humanitarian action. Recovery thinking should be systematically integrated into the design of emergency responses as an opportunity to enhance the resilience of communities to future shocks and stresses.

View PDNA and DRFs as an entry point, but not the 'end game'

Current training on PDNA and DRF tends to be undertaken in relative isolation from a deeper understanding of resilient recovery processes, which is something that requires redress. Current PDNA and DRF tools are primarily focused on the replacement of assets damaged and lost, rather than understanding underlying risk drivers (including social processes and policies) to ensure the recovery can build the resilience of communities in the aftermath of crisis and provide opportunity to transition to more sustainable development pathways. By placing a greater emphasis across the disaster management cycle (i.e., linking response–recovery–development) DRF could provide a strategic and overarching planning tool across the disaster–development nexus.

Make recovery outcomes more explicit within conceptualisations of DRR

DRR outcomes necessarily require effective action on disaster recovery. Yet, practically, DRM is only partially elaborated within national institutions, policies and frameworks, as most action does not provide sufficient scope for effective recovery processes to be pursued. Current institutional

mandates and regulatory frameworks for DRM should place a stronger emphasis on recovery as a strategic process to shift from disaster management to risk reduction outcomes, and in doing so bridge the humanitarian–development divide (UNDP, 2019a).

Make ‘resilience through recovery’ a core part of climate change action

Disaster recovery should not only be viewed as the domain of National Disaster Management Authorities and Civil Protection, but also of those leading action on climate change adaptation. This makes sense conceptually, practically and strategically. Given the political and financial attention to climate change adaptation, as well as social protection and poverty reduction, across many of the Sahelian countries, there is benefit in making resilience through recovery a more explicit component of these topics and interventions. Not only would this help build disaster recovery processes into a broader constituent of sectoral priorities, but it would also help to advance recovery in contexts where DRM is nascent.

Chapter 12: Upgrading the AU PoA: recommendations

Reader's guide:

- This chapter is designed to support the African Union Commission (AUC) and Member States to revise the African Union Programme of Action (AU PoA), and to inform any future assessment of progress.
- The coding system described in Chapter 1 is employed to help readers connect the recommendations to the AU PoA Priority Activities.
- Acronyms are written in full the first time they are used within the chapter.
- Chapter bibliographies are included at the end of the report.

Based on learning from this assessment of progress – for seven countries and at the regional level against the AU PoA – recommendations are outlined below to upgrade the structure and contents of the AU PoA and the Operational Plan for implementation of the Sendai Framework (AUC, 2018). The team has considered the following questions:

- *To what extent do the AU PoA strategic areas of intervention, priority activities and outputs adequately reflect the progress of disaster risk reduction (DRR) and disaster recovery at the national and regional scale? Are there any major gaps in the Priority Activities?*
- *What concrete recommendations can be made for updating the AU PoA?*

A separate commission would be required to articulate specific suggestions for a full revision of the AU PoA (something the AU is planning in 2021); however, overarching recommendations for improvement are provided below, along with illustrations of specific changes to be made under selected Priority Activities. Also included are ideas on how to improve any future assessment of progress.

Overarching recommendations for improvement

The following overarching recommendations for improving the AU PoA and Operational Plan (AUC, 2018) are based on key informant feedback and the researchers' own reflections:

The PoA and Operational Plan (AUC, 2018) could be enhanced by articulating more clearly the **specific actors responsible** for enabling the Priority Activities to be operationalised, alongside a breakdown of the **interim steps** required to achieve those Priority Activities and **interim deadlines**. Doing so would (hopefully) enable delays in progress to be identified more readily – before the end date set – and for specific actors to be held accountable. While it is recognised that most DRR efforts require collaboration across a range of stakeholders, the current broad description of Regional Economic Communities (RECs), governments and non-governmental organisations (NGOs) etc., is not sufficiently nuanced to encourage or steer the action that is required. Furthermore, having interim deadlines would help reveal successes where they are being made – without having to wait several years for the deadline to pass – so those achievements can be recognised and celebrated.

Adopting best practice from monitoring, evaluation and learning (MEL) frameworks and approaches, it is recommended that in addition to articulating Priority Activities and Key Outputs, the AU PoA introduces an additional element: **Key Outcomes**. These would provide a steppingstone between the

overarching aims of the Sendai Framework and the progress that the AUC, the Economic Community of West African States (ECOWAS) and African nations want to see on DRR. Introducing Key Outcomes would also turn attention to the impact and effectiveness of the Priority Activities, making the exercise of monitoring and reporting on progress against the PoA less about ‘what has been done’ and more about ‘what has been effective’.

The AUC could consider radically changing the entire layout of the AU PoA into a **matrix**. To explain, using disaster recovery as an illustration: disaster recovery requires action across Priority 1–4 (Understanding disaster risk; Strengthening disaster risk governance; Investing in disaster risk reduction; Enhancing disaster preparedness for recovery and to ‘build back better’ in recovery, rehabilitation and reconstruction), and so specific priority actions need to be included in all four Priority Activities, while also making sense as a complete area of work on disaster recovery. A matrix approach would require an overhaul of the current layout and content, but it could be more effective in helping key DRR stakeholders to think through the full range of actions required across the four Priority Activities for each aspect of the disaster risk management (DRM) cycle.

Across the national and even the regional interviews conducted for this assessment, it was not uncommon for key government and non-government DRR stakeholders to be unclear on what the Priority Activities described in the AU PoA actually mean. To address this, the AU PoA and Operational Plan (AUC, 2018) should be accompanied by a **monitoring guidance and terminology explainer note**, which describes in more detail what each of the Priority Activities means, the terms used – which can link to the hazard terminology and classifications report of the International Science Council (ISC) and United Nations Office for Disaster Risk Reduction (UNDRR) (ISC and UNDRR, 2020), and how the AUC recommends progress to be documented. This may help build capacity for DRR actors to better understand the intention of each Priority Activity, and how they can track progress systematically and robustly. At the regional level, it would then be more feasible to undertake comparative studies across the country-level findings.

At present **disaster recovery** features within the continental- and regional-level Priority Activities, but it is tied to overarching ambitions on preparedness, response and recovery. In order to generate greater attention to disaster recovery explicitly, it could be more impactful to have disaggregated Priority Activities listed, which can then prompt specific actions to be articulated in the monitoring and review processes. It is recommended that there are specific disaster recovery actions which cover the entire spectrum: having disaster recovery strategies/policies in place, having those financed, demonstrable operationalisation of those plans, and robust monitoring systems which inform improvements to the disaster recovery approach in each country (across all scales). There would also be value in disaggregating short-, medium- and long-term disaster recovery actions and outcomes.

Specific changes to the current AU PoA

Drawing on the learning from this assessment, examples are provided below as to how some of the Priority Activities of the AU PoA could be improved. If/when the full revision of the AU PoA takes place, it is also recommended that the Key Outputs are revised to be more ambitious, and that new Key Outcomes are devised (see above). Furthermore, with so many of the Priority Activities having a deadline of 2020, new Priority Activities will need to be drafted in order to guide progress up to 2030 – the end of the Sendai Framework implementation period. Illustrations of specific changes across the continental, regional and national level for all four Priority Activities are provided below:

Priority 1: Understanding disaster risk

- **(P1 C-1) Establish guidelines for the surveillance of continental risks.** This Priority Activity could be adapted and used as an opportunity to promote adherence to the latest ISC and UNDRR (2020) terminology and hazard classifications.
- **(P1 C-3) Map risk assessment and analysis approaches and methods.** Many interviewees felt there were too many mappings being undertaken as part of individual project activities without sufficient sharing or updating. The AUC should consider making it explicit that the inventory should be available online with a means for updating at regular intervals by multiple stakeholders.
- **(P1 C-7) Establish an African Science and Technology Group.** With the African Science and Technology (AfSTAG) Advisory Group already established, further ambitions for the Group need to be articulated including, for example, strengthening the evidence base on DRR in neglected fields, such as disaster risk governance in different types of conflict contexts.
- **(P1 R-1) Undertake studies on new and man-made risks.** Support is required to help governments better understand the scope of ‘new and man-made risks’. The AUC can draw on the recent ISC and UNDRR (2020) hazard classifications as a guide – including the description of societal hazards.
- **(P1 N-2) Establish/strengthen technical structures for risk surveillance and assessment.** Further guidance is required to help national stakeholders understand what ‘operationalising’ post-disaster assessments means in practice. For example, does this simply mean conducting post-disaster needs assessments (PDNAs) or can this be matured to call for demonstrable use of the findings to inform future policy and investment design?

Priority 2: Strengthen disaster risk governance to manage disaster risk

- **(P2 C-1) Mainstream DRR across AUC departments.** This could be nuanced to specify which departments will be prioritised, together with a clearer articulation of what success looks like. Given that the deadline for this priority area was 2017, this will also require an extended timeframe with intermediary goals.
- **(P2 C-6) Develop guidance to align national and regional DRR programmes to the Sendai Framework.** While still a relevant Priority Activity (given that alignment to the Sendai Framework is still required in some regions/countries), consideration could be given to extending this Priority Activity to include engagement and alignment to the Sendai Framework Monitor and related monitoring processes.
- **(P2 C-9) Establish the Africa Youth Advisory Board.** Given that the Board now exists, stronger ambitions could be set for how youth engagement can be guaranteed and included in decision-making processes in a meaningful way.
- **(P2 R-1) Develop a common approach to address regional and transboundary disaster risks.** Further guidance could be provided to regional entities on how to prioritise a shortlist of transboundary disaster risks to be addressed, and what measures should be used to determine progress and success.
- **(P2 N-5) Enhance awareness and compliance of public regulation measures on DRR.** Many respondents felt this was of critical importance to advancing risk reduction and curbing risk creation across the region, yet it required further nuancing and additional Priority Activities to give public regulation measures more weight. The Priority Activity could be linked to an additional component on accountability for enforcement of regulation measures and penalties for non-compliance. In complement, given the multi-sectoral nature of DRR, it might be useful to include sub-activities related to priority sectors that have regulations with

risk reduction aspects – for example, building codes, Environmental Impact Assessments, public health and safety standards, etc. – that can be strengthened and their implementation monitored.

Priority 3: Investing in DRR for resilience

- **(P3 C-4) Enhance investment in disaster risk financing, transfer, insurance and risk-sharing and retention mechanisms.** This Priority Activity includes too many components for it to be effectively actioned or monitored. The AUC could consider sub-dividing each of these aspects of risk financing into their own Priority Activity.
- **(P3 R-3) Promote public–private partnerships for disaster risk financing, transfer and insurance.** As with the feedback above, this Priority Activity includes too many elements to provide a useful steer to regional bodies and therefore could be broken down into separate activities with clearer ambitions articulated for each element. The same feedback applies to the national level (i.e., (P3 N-2) Develop/strengthen national disaster risk financing mechanisms).
- **(P3 N-4) Develop/implement development policies, plans and programmes.** Government interviewees found this Priority Activity too generic and as such failed to provide any clear direction on what to do. This could be modified to indicate clearly how overarching policies need to integrate risk reduction aspects in their design and implementation; and guidance be made available to decision-makers and technical experts on how this may be achieved. Better still, it could help track progress on the quality of DRM integration and the need to address the foundations of systemic risk (which would be a valuable addition).
- **(P3 N-5) Develop DRM guidelines on safety of schools, health facilities and critical infrastructure.** This would be better placed under Priority 4, with a clearer articulation of the ambition to ensure critical facilities are physically resilient and have in place the risk governance mechanisms (e.g., school and hospital boards) to oversee the development and implementation of preparedness, response and recovery plans.
- **(P3 N-6) Promote and fund community-based DRR.** Community-focused ambitions should be placed under the sub-national-level Priority Activities, with a clearer articulation of the ambition or activity that is being called for. That said, it could be valuable to modify this national-level Priority Activity to focus on capturing the need for national legislation/guidance and investments for community-based DRR, and to track sub-national differences in progress.

Priority 4: Enhancing disaster preparedness for effective response and to ‘build back better’ in recovery, rehabilitation and reconstruction

- **(P4 C-1) Support disaster preparedness and response interventions.** Clearer descriptions are required of what the Priority Activity aims to achieve at the continental level, the stakeholders or agencies responsible (including differentiating between hazard types and severity), and the intended outcomes.
- **(P4 C-4) Support the operationalisation of post-disaster response, recovery and reconstruction guidelines in fragile and conflict settings.** As this assessment reveals, this Priority Activity is still required, and would benefit from further nuancing to promote different types of DRM actions in different conflict settings (see Peters, 2019). Expanding this Priority Activity is recommended to describe a suite of actions across the continental, regional, national and sub-national scale.
- **(P4 R-5) Facilitate partnerships to strengthen national post-disaster response management capacities.** Given that all effective DRM actions require multi-stakeholder engagement, this

Priority Activity could change the weight of emphasis to place more focus on which aspects of post-disaster response and recovery processes need to be pursued and what the intended outcome is. There are many ideas within this assessment that can help inform this revision.

- **(P4 N-3) Create/strengthen national preparedness and response institutions; (P4 N-4) Develop comprehensive preparedness and response plans.** Although effective DRM requires a system-wide approach, for the purposes of articulating a set of Priority Activities and being able to monitor progress, the different phases of the DRM cycle could be more clearly separated. This would allow each stage in the DRM cycle to be monitored, including disaster recovery which is woefully neglected.

Alignment of the English and French AU PoA implementation matrix

The English and French versions of the AU PoA implementation matrix do not directly align. Some differences are of lesser importance, such as subtle differences in the translation, while others are substantial, such as differences in the deadline for a Priority Activity or reference to gender-specific activities not appearing in the French version. The French PoA is dated January 2017 while the English PoA is dated November 2017; the differences may be due to revisions of the English version which were not updated in the French translation.

Comparing the two documents reveals that many of the differences could have important impacts on the implementation of the AU PoA, notably in the timeframes and the (oftentimes) vastly different wording of Strategic Areas of Intervention, Priority Activities, and Key Outputs across all scales. At the continental and regional levels, the differences identified largely relate to timeframes and divergence in wording in a limited number of cases. The differences at the national and sub-national/local levels, on the other hand, are much more extensive. Examples are provided in Annex 3, although these are not intended to be exhaustive, and it is recommended that a thorough review be undertaken to align the two iterations and to ensure consistency throughout.

Future assessment of progress

Outlined below are ideas on how to improve future assessments of progress against the AU PoA, including on collaboration and consultation, timeline and frequency.

It is recommended that any future assessment of progress be undertaken in a much more **collaborative manner** within each country, in conjunction with the key formal DRR institutions (such as the National Disaster Management Authority (NDMA), Civil Protection, etc.), national DRR platforms (where they exist), and UN Country Teams (UNCTs). This could include, for example, a collective process wherein evidence on progress made is pooled by different stakeholders, a verification process to triangulate evidence on progress against different sources, and a collaborative review process to discuss the findings and provide opportunity for corrections or additions. The process should remain managed by an independent entity to ensure the findings have a degree of external validity and robustness compared to those that are self-assessed: such as the self-reporting processes of the Sendai Framework. However, taking time to review in detail the AU PoA and undertaking the assessment process is itself an important learning opportunity and – if timed well – could feed into national planning processes and/or revisions to annual plans and budgets.

There were challenges in securing participation in the **Senior Expert Consultations** conducted as part of this assessment – due to COVID-19 and remote access (detailed in the Methodology chapter of this report). However, it is recommended that the consultations remain part of the methodology

owing to their value in allowing a broad range of DRM stakeholders to engage with the initial draft findings, to fill information gaps, and to provide reflections on the viability and suitability of the draft recommendations.

This commission was initially set for completion within 24 weeks (details are provided within the Methodology chapter as to why this was not feasible). This may be viable for future assessments of progress given that the 2015 baseline has already been devised through this report. That said, it is highly recommended that an **expanded team of researchers** be permitted to conduct the assessment. For example, ideally each country team would comprise of geographic and thematic expertise, with a technical expert on each stage of the disaster management cycle as a minimum.

It is recommended that any future study be tightly focused on the progress made over the **previous two-year period**. This is because: 1) this assessment has already created a baseline (to the extent possible), 2) covering a six-year period was too unwieldy in terms of the volume of information to be covered, and 3) to a large extent the same agencies/individuals will be asked for source material and for interview, thus the process will become unnecessarily duplicative. Although biennial reports are prepared for continental-level progress on the AU PoA (e.g., AUC, 2020), the format – being a single text-based report, does not lend itself to being readily updated. It is also recommended, therefore, that further consideration be given to how assessments of progress are being commissioned, and whether a **standardised methodology** can be employed across all assessments with findings presented on an online matrix which can then be updated every two years. Consideration should also be given to whether the Sendai Framework Monitor interface could provide a suitable platform for such a repository.

Annex

Annex 1: African Union Programme of Action (AU PoA): implementation matrix (full version)

Priority 1: Understanding disaster risk

Continental and regional level

Priority 1: Understanding disaster risk
Continental level: Establish standardised methodology, guidelines, procedures and tools based on scientific evidence and local and indigenous knowledge for risk assessment and analysis
Priority Activity
1. Establish guidelines for surveillance of continental risks. [Timeframe: 2020]
2. Develop risk surveillance capacity. [Timeframe: 2020]
3. Inventory and mapping of different approaches and methods used for risk assessment and analysis. [Timeframe: 2020]
4. Establish an interactive knowledge sharing platform with a library of existing methodologies for risk assessments and analysis for different risk contexts. [Timeframe: 2020]
5. Assess existing gaps with respect to risk assessments and surveillance. [Timeframe: 2020]
6. Develop action plan for addressing existing gaps in disaster risk assessment and surveillance data, statistics and information development and sharing. [Timeframe: 2020]
7. Establish Science and Technology Advisory Group for Africa. [Timeframe: 2020]
Key Outputs
1. Knowledge management system with inventory of existing methodologies for risk assessments and analysis
2. Gaps in risk assessments and surveillance identified and addressed
3. Improved risk assessment, analysis and surveillance capacity
4. Science and Technology Group

Priority 1: Understanding disaster risk
Regional level: Generate and disseminate risk knowledge and information for decision-making, including for cross-border and cross-cultural issues
Priority Activity

1. Undertake studies to develop risk information, including on new risks and man-made risks. [Timeframe: Continuous]
2. Generate risk information packages for different cultural, gender, and age groups. [Timeframe: Continuous]
3. Establish and strengthen an interactive knowledge-sharing platform with risk information and knowledge [Timeframe: 2020]
4. Develop/review regional multi-hazard early warning systems (EWS). [Timeframe: Continuous]
5. Support development of capacity for downscaling of global weather and climate data for hydrometeorological hazards. [Timeframe: Continuous]
6. Develop regional Disaster Risk Management Information and Communication Systems (DRMICS). [Timeframe: 2020]
7. Establish or enhance protocols for sharing cross-border risk information and knowledge. [Timeframe: Continuous]
8. Facilitate awareness through sharing of knowledge via online platforms of Regional Economic Communities (RECs). [Timeframe: Continuous]
Key Outputs
1. Risk information and knowledge-sharing with stakeholders widespread
2. Improved availability of information and knowledge
3. Increased awareness of cross-border risks

National level

Priority 1: Understanding disaster risk
National level: Institutionalise risk assessment and analysis for risk-informed decision-making
Priority Activity
1. Mobilise resources for profiling, monitoring and assessing disaster risks, vulnerability, capacity, exposure and hazard features. [Timeframe: Continuous]
2. Establish/strengthen technical structures (e.g., committees, task forces) to advise, guide and facilitate surveillance and assessment of different risks and gendered impacts. [Timeframe: Continuous]
3. Establish definitions and harmonize concepts, terms and procedures for presenting risk and warning information. [Timeframe: Continuous]
4. Establish/strengthen disaster risk reduction (DRR) databases (including on disaster loss and impacts). [Timeframe: Continuous]

5. Establish national disaster risk management (DRM) information and communication systems with observatories for disaster data and information collection and data/information-sharing platform. [Timeframe: Continuous]
6. Operationalise post-disaster assessment of damages, losses and impacts. [Timeframe: Continuous]
7. Integrate DRR in education and training systems, with adequate resourcing and capacities. [Timeframe: Continuous]
8. Strengthen technical and scientific capacity to generate DRR knowledge and promote investments in innovation and technology to address DRM challenges. [Timeframe: Continuous]
9. Mobilise initiatives for awareness-raising, advocacy and education on DRR. [Timeframe: Continuous]
10. Harness, integrate and safeguard traditional and local knowledge and practice of DRM. [Timeframe: Continuous]
Key Outputs
1. Increased awareness and education on disaster risk and risk management products
2. Increased capacity to undertake risk profiling, monitoring and assessments
3. Improved measurement and monitoring of disaster risks
4. Widespread risk-informed decision-making and enhanced risk management capabilities, incorporating indigenous knowledge
5. Increased generation and application of science and technology-based DRR solutions
6. Increased availability of sex- and age-disaggregated data

Priority 2: Strengthening disaster risk governance to manage disaster risk

Continental and regional level

Priority 2: Strengthening disaster risk governance to manage disaster risk
Continental level: Establish a dedicated structure for coordination of DRR in the African Union Commission (AUC)
Priority Activity
1. Mainstream DRR activities across AUC departments. [Timeframe: 2017]
2. Establish a DRR Coordination Unit within the AUC. [Timeframe: 2018]
3. Map and assess roles, functions and mandates of regional stakeholders in DRR. [Timeframe: 2017]
4. Convene biennial Africa Regional Platforms for DRR. [Timeframe: Continuous]
5. Design and implement programmes to strengthen DRR capacity of regional organisations and bodies, Member States, regional institutions and other stakeholders. [Timeframe: Continuous]
6. Develop guidance to facilitate alignment of national and regional DRR programmes to aid implementation of the Sendai Framework. [Timeframe: 2017]
7. Establish regional monitoring systems, including joint evaluations, for follow up on progress of Member States in implementing the AU PoA and Sendai Framework. [Timeframe: 2018]

8. Develop and implement a programme to popularise and propagate the Africa Regional Strategy for Disaster Risk Reduction (ARSDRR) and the AU PoA. [Timeframe: 2017]
9. Establish Africa Youth Advisory Board. [Timeframe: 2017]
Key Outputs
1. Strengthened DRR/DRM coordination
2. Guidance for aligning regional and national DRR to the Sendai Framework developed
3. Youth Advisory Board established

Priority 2: Strengthening disaster risk governance to manage disaster risk
Regional level: Set up mechanisms for DRR coordination and exchange of DRR/DRM best practices, lessons learnt and experiences among Member States
Priority Activity
1. Develop and implement a common understanding and approach to address regional and transboundary disaster risk concerns. [Timeframe: Continuous]
2. Establish, and sustain, structures and mechanisms for coordinating DRR. [Timeframe: Continuous]
3. Strengthen regional mechanisms for exchange of risk management information. [Timeframe: 2020]
4. Strengthen inter-RECs' experience-sharing and exchange of lessons learned under auspices of AUC. [Timeframe: 2020]
5. Develop harmonised mechanisms to identify ecosystems critical for transboundary DRR and modalities for their protection and management. [Timeframe: 2020]
Key Outputs
1. DRR/DRM knowledge shared and enhanced
2. Strengthened regional platforms
3. Enhanced capabilities for effectiveness of DRR/DRM through mutual learning
4. Improved regional coordination of DRR

National level

Priority 2: Strengthening disaster risk governance to manage disaster risk
National level: Formulate, improve and sustain policies, strategies, plans and legal frameworks for DRR and integrate them into sustainable development strategies
Priority Activity

1. Formulate gender-responsive DRR policies, strategies, plans and legal frameworks in line with the Sendai Framework, Paris Agreement, Sustainable Development Goals (SDGs) and the New Urban Agenda to ensure risk-responsive development. [Timeframe: 2020]
2. Operationalise institutional frameworks with authority, capacity, financial resources and tools. [Timeframe: Continuous]
3. Create or reinforce multi-stakeholder and multi-sector national and sub-national DRR/DRM platforms. [Timeframe: 2020]
4. Formulate or reinforce regulations, standards and codes to incorporate DRR and improve legal and regulatory environment for enhanced DRR appropriate for rural and urban areas. [Timeframe: Continuous]
5. Enhance awareness and sensitisation and support compliance and enforcement on public regulation measures for DRR. [Timeframe: Continuous]
6. Align (and integrate where possible) climate coordination and DRR coordination mechanisms. [Timeframe: 2020]
7. Translate policies and strategies into practical tools for decision-makers and practitioners to facilitate implementation of the Sendai Framework. [Timeframe: 2020]
8. Develop national mechanisms to identify ecosystems critical for DRR and modalities for their protection and management. [Timeframe: 2020]
Key Outputs
1. Policies, strategies, plans and legal frameworks are adopted and implemented to reduce risk and strengthen resilience
2. Strengthened coherence between climate change adaptation strategies, DRR and ecosystem-based management

Priority 3: Investing in DRR for resilience

Continental and regional level

Priority 3: Investing in DRR for resilience
Continental level: Establish and strengthen cooperation, collaboration and coordination among governments, inter-governmental organisations and partners, including the private sector, and enhance coherence and integration of development frameworks to induce increased investment in DRR, including through financing of DRR by response funds
Priority Activity
1. Assess and advocate, conceptualise and develop policy, operational and governance guidelines for establishment of a continental funding mechanism for DRR. [Timeframe: 2019]

2. Integrate DRR as a priority of key AU-led development frameworks, plans, policies and flagship projects. [Timeframe: 2020]
3. Develop guidance on establishing linkages between DRR and relevant development frameworks at regional level. [Timeframe: 2018]
4. Facilitate increased participation and investment in mechanisms for disaster risk financing, risk transfer and insurance, risk-sharing and retention, such as the African Risk Capacity (ARC). [Timeframe: Continuous]
Key Outputs
1. Strengthened coherence in sustainable development and DRR
2. Increased continental mechanisms for disaster risk financing

Priority 3: Investing in DRR for resilience
Regional level: Enhance coherence in sustainable development and DRR in regional policies and plans and strengthen regional cooperation and mechanisms to protect development gains and enhance resource mobilisation and investment in DRR.
Priority Activity
1. Align DRR with RECs' development frameworks. [Timeframe: Continuous]
2. Develop guidance on establishing linkages between DRR and development frameworks of RECs at national and sub-national/local levels. [Timeframe: 2019]
3. Assess and promote, as appropriate, increased participation and investment, including through public-private partnerships for disaster risk financing, risk transfer and insurance. [Timeframe: Continuous]
4. Establish regional cooperation for development of regional architecture of disaster-resilient health infrastructure and public health systems and management of transboundary public health risks. [Timeframe: Continuous]
Key Outputs
1. Increased synergy in RECs' investments for DRR and for sustainable development
2. Regional framework for disaster-resilient health systems developed

National level

Priority 3: Investing in DRR for resilience
National level: Establish, and allocate adequate resources for, DRR investment plans and create an enabling environment to induce increased investment in DRR, including through integrating

DRR measures in fiscal and financial instruments and optimising contribution of response funds to DRR
Priority Activity
1. Advocate and support design and operationalisation of national DRR investment plans, as part of the institutional frameworks, incorporating public–private partnerships. [Timeframe: 2020]
2. Develop and strengthen national policies, mechanisms and capacity for disaster risk financing, risk transfer and insurance, risk-sharing and retention, and social protection, as appropriate. [Timeframe: 2020]
3. Operationalise guidelines for mainstreaming DRR into all sector and cross-sector development policies and programmes. [Timeframe: Continuous]
4. Develop and implement social, economic, financial and sector development policies, plans and programmes. [Timeframe: Continuous]
5. Develop risk management and resilience guidelines on safety of schools, health facilities and critical infrastructure. [Timeframe: 2018]
6. Promote community-based DRR approach with appropriate funding mechanisms. [Timeframe: 2018]
7. Invest in increasing and strengthening human capital dedicated to enhancing DRR knowledge management and practice. [Timeframe: Continuous]
Key Outputs
1. DRR investment plan and framework is established and operationalised
2. National mechanisms for disaster risk financing and social protection established and strengthened
3. Increased level of disaster risk considerations in sector and cross-sector strategies, plans, and investments
4. Increased number of skilled DRR practitioners

Priority 4: Enhancing disaster preparedness for effective response and to ‘build back better’ in recovery, rehabilitation and reconstruction

Continental and regional level

Priority 4: Enhancing disaster preparedness for effective response and to ‘build back better’ in recovery, rehabilitation and reconstruction

Continental level: Effectively coordinate preparedness and integrate preparedness measures for effective response

Priority Activity
1. Support and coordinate existing disaster interventions on disaster preparedness, response, and humanitarian assistance. [Timeframe: Continuous]
2. Develop and strengthen continental and regional institutions, networks and forums for research, innovation and scientific solutions, incorporating traditional knowledge, for preparedness, response and recovery. [Timeframe: Continuous]
3. Facilitate the establishment of a dialogue/forum under the Africa Regional Platform (AfRP) for exchange of know-how and best practices on preparedness, response and recovery. [Timeframe: 2018]
4. Develop and support operationalisation of guidelines on post-disaster response, recovery and reconstruction in settings of fragility and conflict. [Timeframe: 2019]
Key Outputs
1. Better coordinated and harmonised DRM
2. Better coordinated interventions of international institutes (in terms of financing, information-sharing and decision-making)
3. Better dissemination of best practices
4. Enhanced mutual reduction of disaster risk, fragility and conflict

Priority 4: Enhancing disaster preparedness for effective response and to 'build back better' in recovery, rehabilitation and reconstruction
Regional Level: Establish and strengthen multi-hazard EWS and regional mechanisms for early action and response
Priority Activity
1. Develop approaches and measures for management of cross-border disasters. [Timeframe: 2020]
2. Establish regional multi-hazard EWS; and support harmonisation and continuity of national EWS. [Timeframe: Continuous]
3. Develop effective regional response and recovery mechanisms to respond to and recover from transboundary disasters. [Timeframe: 2020]
4. Facilitate the design and continuous implementation of joint disaster preparedness and response interventions, among Member States, sectors and partners. [Timeframe: 2020]

5. Facilitate partnership with donors, international agencies, the private sector and implementing organisations to strengthen national post-disaster response management capacities. [Timeframe: Continuous]
6. Support capacity enhancements in multi-hazard EWS. [Timeframe: Continuous]
7. Support development of integrated approaches to disaster management that incorporate DRR in response practice at regional and national levels. [Timeframe: Continuous]
8. Support development of regional capacity in maritime disaster management, including regional search and rescue drill exercises for maritime incidents. [Timeframe: Continuous]
9. Support improved management of biological hazard risk reduction. [Timeframe: Continuous]
Key Outputs
1. Harmonized multi-hazard EWS and effective response mechanisms established
2. Enhanced regional capacity to respond to transboundary disasters

National level

Priority 4: Enhancing disaster preparedness for effective response and to 'build back better' in recovery, rehabilitation and reconstruction
National level: Establish and strengthen emergency preparedness, response and recovery support and coordination mechanisms, capacities and facilities, including coordination centres
Priority Activity
1. Strengthen multi-hazard EWS and its outreach to the local community. [Timeframe: Continuous]
2. Develop national strategy for effective preparedness and response that integrates gender-responsive DRR measures and 'build back better'. [Timeframe: 2018]
3. Create and strengthen national institutions for disaster preparedness and timely response. [Timeframe: Continuous]
4. Develop comprehensive preparedness and response plan. [Timeframe: Continuous]
5. Support continuous training of personnel and simulation exercises of response actions. [Timeframe: Continuous]
6. Facilitate partnership with donors, development partners, the private sector, charities, foundations and implementing organisations to mobilise efficient and sufficient humanitarian funding. [Timeframe: Continuous]
Key Outputs
1. Improved and timely accessibility to warning and alert messages
2. Institutionalised emergency preparedness, response and recovery plans, with roles and responsibilities identified

3.Strengthened preparedness and capacity for risk-informed response and recovery
4.Increased level of hazard-resilient infrastructure
5. Strengthened link between relief, rehabilitation and recovery

Annex 2: AU PoA at sub-national level

Outlined below are the AU PoA Priority Activities at the sub-national level, organised around the four priorities of the Sendai Framework.

Source: AUC – African Union Commission (2017: 17–27) *Programme of action for the implementation of the Sendai Framework for Disaster Risk Reduction 2015–2030 in Africa*. Addis Ababa: AUC

(https://www.preventionweb.net/files/49455_poaforsendaiimplementationinafrica.pdf).

Priority 1: Understanding disaster risk
Sub-national level: Engage and sensitise communities in risk profiling, monitoring and assessment for decision making
Priority Activity
1. Develop and publicise awareness products, including risk-mapping products, in communities, including on occasions for commemorating the International Day for Disaster Risk Reduction (IDDR). [Timeframe: Continuous]
2. Equip national and sub-national officials, civil society organisations (CSOs) and local communities, including women and youth, with knowledge and capacities, including training in participatory risk assessment, for monitoring and analysing risk. [Timeframe: Continuous]
3. Develop and institutionalise a programme to monitor hazards, exposure and vulnerability and undertake local risk assessment, emphasising localised recurrent risks and threats. [Timeframe: Continuous]
4. Document, systematise and promote use of indigenous knowledge on risk identification, monitoring and assessment at the local level. [Timeframe: Continuous]
Key Outputs
1. Increased awareness on disaster risk and risk management opportunities
2. Increased capacity for risk assessment, analysis and application at local level

Priority 2: Strengthening disaster risk governance to manage disaster risk
Sub-national level: Decentralise powers and resources to catalyse disaster risk reduction (DRR) actions at the sub-national/local level
Priority Activity
1. Replicate national-level platforms and initiatives to the sub-national/local level (as practicable). [Timeframe: Continuous]
2. Establish, manage and enhance community-based/DRR/disaster risk management (DRM). [Timeframe: Continuous]
3. Develop the leadership and capacity of sub-national/local authorities to work with community structures, civil society and other local partners to advance local DRM- [Timeframe: Continuous]

4. Increase participation of local actors, including women, youth and other stakeholder in DRR/DRM activities. [Timeframe: Continuous]
5. Allocate and facilitate investment of dedicated, adequate and predictable resources and capacity to engage with communities at risk and implement local initiatives. [Timeframe: Continuous]
Key Outputs
1. Policies, strategies, plans, institutions and legal frameworks are put in place and operationalised to reduce risk and strengthen resilience at the sub-national/local level. [See below: SM Target E-2: Percentage of local governments that have adopted and implemented local DRR strategies in line with the national strategies]

Priority 3: Investing in DRR for resilience
Sub-national level: Promote risk-reducing investments, including implementing microinsurance and social safety net programmes
Priority Activity
1. Sensitise communities on the Sendai Framework and policies, strategies/measures for investing in risk-responsive development at the sub-national/local level. [Timeframe: Continuous]
2. Promote integration of DRR in community infrastructure and livelihood investments. [Timeframe: Continuous]
3. Increase livelihood interventions in DRM programmes of institutions and partners at sub-national/local levels. [Timeframe: Continuous]
4. Enact by-laws and regulations to incentivise private-sector investments in DRM, including in micro-finance, micro-insurance and social safety nets. [Timeframe: Continuous]
5. Increase application and patenting of traditional and local knowledge and practice in DRM. [Timeframe: Continuous]
Key Outputs
1. Increased level of disaster risk considerations in sector development and livelihood strategies, policies, plans, programmes and investments.
2. Mechanisms for risk-responsive microfinance and insurance and safety net programmes established and operationalised

Priority 4: Enhancing disaster preparedness for effective response and to 'build back better' in recovery, rehabilitation and reconstruction
Sub-national level: Establish and strengthen multidisciplinary local DRM mechanisms
Priority Activity

1. Support mobilisation of community resources for local response and recovery. [Timeframe: Continuous]
2. Develop systems of community emergency management volunteers to perform local roles in disaster management. [Timeframe: Continuous]
3. Mobilise and coordinate CSOs, NGOs, civil-based organisations and local communities, with a focus on women, children and youth, for better disaster preparedness and response. [Timeframe: Continuous]
4. Facilitate capacity-building of sub-national/local responders, including women and youth, and provide appropriate support during response, particularly for prioritised evacuation and care of women, children, older persons and people with disabilities. [Timeframe: Continuous]
5. Strengthen capacity of local authority institutions in disaster preparedness, response and reconstruction. [Timeframe: Continuous]
6. Promote decentralisation of authority and budget of national nodal institutions in DRR to sub-national/local levels. [Timeframe: Continuous]
7. Establish appropriately integrated communication network to strengthen sub-national/local preparedness, early warning and response. [Timeframe: 2020]
8. Promote the use of indigenous knowledge, institutions and practices in needs-based preparedness planning and response management. [Timeframe: Continuous]
Key Outputs
1. Enhanced local-level capacity for preparedness and response
2. Increased community participation in and ownership of emergency response initiatives
3. Strengthened community resilience

Annex 3: Differences between the English and French AU PoA implementation matrix

The examples below are illustrative and not exhaustive. It is recommended that a thorough comparison of the English and French versions of the AU PoA be undertaken by professional translators with technical expertise in disaster, risk and resilience terminology. The guidance on hazard definitions and classification from the International Science Council (ISC) and the United Nations Office on Disaster Risk Reduction (UNDRR) (ISC and UNDRR, 2021)* should also be considered as a valuable resource when (re)producing any disaster-related documents in various languages.

* ISC and UNDRR (2021) *Hazard Definition & Classification Review: Technical Report*. Geneva: ISC and UNDRR (<https://council.science/events/hazards-report/>).

Priority 1: Understanding disaster risk	
Regional level	<ul style="list-style-type: none"> • Outputs are missing in the French AU PoA. • P1 R-3: Timeframes do not correspond: the French AU PoA indicates 2018, while the English AU PoA indicates 2020. • P1 R-6: Timeframes do not correspond: the French AU PoA indicates 2019, while the English AU PoA indicates 2020.
National level	<ul style="list-style-type: none"> • P1 N-2: The English AU PoA reads ‘Establish/strengthen technical structures (e.g. committees, task forces) to advise, guide and facilitate surveillance and assessment of different risks and <u>gendered impacts</u>.’ • P1 N-2: The French AU PoA reads ‘<i>Mettre en place / renforcer les structures techniques (i.e. comités, groupes de travail) pour conseiller, guider et faciliter la surveillance et l’évaluation des différents risques</i>’, with no reference to the assessment of gendered impacts.
Priority 2: Strengthening disaster risk governance to manage disaster risk	
Continental level	<ul style="list-style-type: none"> • P2 C-6 and P2 C-9: Timeframes do not correspond: the French AU PoA indicates 2017, while the English AU PoA indicates 2017 for P2 C-6 and P2 C-9, and 2018 for P2 C-7 and P2 C-8.
Regional level	<ul style="list-style-type: none"> • P2 R-3: Timeframes do not correspond: the French AU PoA indicates ‘Continuous’, while the English AU PoA indicates 2020.
National level	<ul style="list-style-type: none"> • P2 N-1: The English AU PoA reads ‘Formulate <u>gender-responsive</u> DRR policies, strategies, plans and legal frameworks in line with the Sendai Framework, Paris Agreement, SDGs and the New Urban Agenda to ensure risk-responsive development.’

	<ul style="list-style-type: none"> • P2N-1: The French AU PoA reads <i>‘Formuler des politiques, stratégies, plans et des cadres juridiques de RRC fondés sur le cadre de Sendai, l’Accord de Paris, les ODD et le Nouveau Programme pour les villes afin de garantir un développement qui soit adapté aux risques’</i>, with no references to gender-responsive DRR policies.
Priority 3: Investing in DRR for resilience	
Regional level	<ul style="list-style-type: none"> • The Strategic Area of Intervention is worded differently across the English and French AU PoAs. The English PoA reads ‘Enhance coherence in sustainable development and DRR in regional policies and plans and strengthen regional cooperation and mechanisms to protect development gains and enhance resource mobilization and investment in DRR’. The research team has translated this into French as <i>‘Améliorer la cohérence du développement durable et de la RRC dans les politiques et les plans régionaux et renforcer la coopération et les mécanismes régionaux pour protéger les acquis du développement et améliorer la mobilisation des ressources et l’investissement dans la RRC.’</i> Instead, the French AU PoA reads <i>‘Améliorer la cohérence du développement durable et de la RRC dans les politiques et les plans <u>de protection des acquis du développement grâce à la création de mécanismes fonctionnels de partage et de transfert des risques et de protection sociale.</u>’</i> The variation is underlined. • P3 R-3: The timeframe of the French AU PoA presents both ‘Continuous’ and ‘2018’, which the research team has concluded is an error, as they contradict each other. The English AU PoA indicates ‘Continuous’. • Key Output 1 of the English AU PoA appears as Key Output 2 of the French AU PoA. • Yet Key Output 2 of the English AU PoA (‘Regional framework for disaster resilient health systems’) does not correspond to Key Output 1 of the French AU PoA (<i>‘Création et mise en oeuvre opérationnelle de mécanismes de transfert de risques, de financement et de protection sociale au niveau régional’</i>). The research team has translated Key Output 2 of the English AU PoA into French as follows: <i>‘Cadre régional pour des systèmes de santé résilients aux catastrophes’</i>.
National level	Key Output 4: The English AU PoA reads ‘Increased number of skilled DRR practitioners’ while the French AU PoA refers to medical staff: <i>‘Nombre accru de médecins spécialisés dans le secours d’urgence’</i> .
Priority 4: Enhancing disaster preparedness for effective response and to ‘build back better’ in recovery, rehabilitation and reconstruction	
Continental level	<ul style="list-style-type: none"> • P4 C-4: Timeframes do not correspond: the French AU PoA indicates 2018, while the English AU PoA indicates 2019.

Regional level	<ul style="list-style-type: none"> • P4 R-3 and P4 R-4: Timeframes do not correspond: the French AU PoA indicates 2018, while the English AU PoA indicates 2020.
	<ul style="list-style-type: none"> • P4 R-8: Different wordings used across the two AU PoAs. The English AU PoA reads: ‘Support development of regional capacity in maritime disaster management, including regional Search and Rescue drill exercises for maritime incidents’, while the French AU PoA reads ‘<i>Soutenir les exercices routiniers de recherche et de sauvetage dans les incidents maritimes</i>’. The research team has translated P4 R-8 from the English AU PoA as ‘<i>Soutenir le développement des capacités régionales en matière de gestion des catastrophes maritimes, y compris les exercices régionaux de recherche et de sauvetage en cas d’incidents maritimes</i>’.

Annex 4: Supplementary methodological annotations

Methodological limitations by country

Burkina Faso

Burkina Faso's development and disaster risk reduction (DRR) journey is well documented, although it is mostly the institutional, central level that can be explored through published secondary research. The dimension of community participation in DRR activities, along with the level of capacity of the Village Development Councils, are still largely undocumented.

Another challenge in studying a country so rich in cross-sector, sector and thematic national strategies and plans is to gauge if and how these initiatives are funded, implemented and impactful, and to what extent they are part of a harmonious national vision for development. This would require substantial in-country research to map and analyse.

The limited time frame and remote nature of this research did not allow for an appropriately wide consultation of key experts. Interviews with sub-national delegations and representatives from civil society organisations (CSOs), for example, would have allowed us to delve deeper into the reality of community engagement with DRR programmes. Furthermore, the complex web of national development programmes led by several ministries would have benefited from consultations with a wider range of national managers. This would have given the research findings more depth, particularly because key elements of prevention and recovery are necessarily included in national action, but this action is part of multi-year sectoral and inter-sectoral programmes.

Contacts with national authorities were made difficult because of conflicting schedules, and this meant that a considerable amount of research time was dedicated to re-arranging telephone meetings.

Chad

The main obstacle faced was the lack of available data. Across the board, little is known about the development of DRR implementation policies in Chad. Mainstreaming at political and administrative level needs to be strengthened and, as such, institutions do not keep sufficient records of government-led activities nor is there a data archiving system in place. This prevented the research team from collating written documents to verify insights provided by the interviews. At the community level, the lack of DRR infrastructure, knowledge of DRR actors and of education means that few, if any, databases exist with DRR-related information (be this project documents, plans or impact data). The interviews with key stakeholders were therefore an important and dominant source of information to inform the assessment.

Sectoral data was able to be extracted from selected project implementation reports and interviews. The Civil Protection Directorate responsible for implementing the national DRR policy greatly supported the research team in collecting available data and in mobilising key people in sectoral administrations.

The need to carry out all interviews remotely made the process more complex as people are less easily reachable online. Remote working also reduced the team's access to documents than would have been possible during a physical meeting. Due to connectivity problems in Chad, several people

could not be interviewed. Furthermore, it was not uncommon to spend several days making the necessary logistical arrangements with an individual for interview.

The Senior Expert Consultation for the presentation of the preliminary results was held by audio-conference on 31 March 2021, after two postponements. It saw the participation of the Directorate of Civil Protection (DPC), National Agency of Meteorology (ANAM), Food Security Information System and Early Warning (SISAAP) and United Nations Development Programme (UNDP). Participants provided their feedback and contributions to the assessment document.

Mali

There is a wide variety of documentation on Mali's development and humanitarian capacities. For DRR, the key reference document that constitutes a 'Sendai baseline' is the 2015 Assessment Report of the Capacity for Disaster Reduction Initiative (CADRI). To describe progress on the African Union (AU) Programme of Action (PoA), documentation proved instrumental from the World Bank, namely project documentation for the Strengthening Climate Resilience in Mali Project or Hydromet Project and the 2019 Performance and Learning Review of the Country Partnership Framework of 2016–2019.

It was difficult to connect with national counterparts (similarly to other countries) and setting up calls entailed multiple messages. We could not establish contact with Mr Kaba Diallo, expert in climate change and sustainable development and focal point for the UN Convention against Desertification in the National Directorate for Water and Forests (DNEF-BKO) despite several exchanges. Mr Diallo had been indicated by the AUC as a key contact in Mali. We also wanted to interview representatives from the Malian Red Cross, Food and Agriculture Organization (FAO), World Food Programme (WFP), the Ministry of Environment and relevant CSOs, but time ran out as it took considerable effort to make the necessary arrangements remotely.

Mauritania

The key document used for the Sendai baseline was the 2014 CADRI assessment. In Mauritania, there was also a legislative and institutional review supported by UNDP in 2016 (Lo, 2016), which largely confirmed and expanded on the CADRI findings. Identifying documentation to establish progress was particularly challenging, as there is no specific recent literature on DRR and DRM, so most documentation was shared by key informants, including unofficial meeting minutes. A rapid review of the most relevant national policies and strategies (mainly through key word search) proved useful to directly assess the focus on climate change adaptation, DRR and communities.

Establishing contact with partners in the field, especially government partners, proved particularly difficult. It was not possible to interview the national DRR focal point due to a change in roles. To this day it is not clear who the National DRR focal point is. The AUC liaised directly with the Minister of Environment (MoE) to enquire about a spokesperson. The researcher organised a meeting with one senior staff of the MoE for an interview, but during the meeting (which was attended by several senior staff) the MoE just conveyed their disappointment about not having been included in the process. Upon their request, UNDP translated the Terms of Reference and Inception Report of the study in French, but the MoE did not respond or attend the Senior Expert Consultation.

Connectivity posed an additional challenge, as some government representatives had no access to a reliable internet connection. Consequently, key informant interviews were conducted over the phone – however, telephone lines were also quite unreliable.

The Mauritanian Red Cross representative was not available for interview, and FAO did not respond to the invitation to interview. Primary research would have benefited from inputs from UNDP senior management and the Governance Unit, as well as their support to the research team to connect with country representatives from the United Nations Environment Programme (UNEP) and World Health Organization (WHO).

Contacts with national authorities were difficult to obtain. There have been some recent changes in the national DRR Focal Point and to secure contact within a line ministry took several interventions by the AU, including a direct call to the MoE.

Niger

Data collection for the Niger assessment took place between November 2020 and March 2021. The lack of archived documentation on the historical policy commitments, projects and plans on DRR presented a significant challenge to establishing the baseline and the progress since 2015. Policy and strategy documents on DRR, as well as the plurality of sectoral texts that deal with aspects of DRR directly or indirectly, are only available sparsely.

Little information is available on DRR policies and activities at the decentralised level.

The team sought to obtain reports on activities implemented from 2015 to present day from administrative authorities but this proved difficult. It also highlighted the challenge of ensuring that learning was transferred between activities or that the sustainability of achievements could be tracked or built upon.

With the support of UNDP and the Early Warning System (*Système Alerte Précoce*, SAP) Coordinator, the researchers accessed what data did exist on DRR in Niger. Furthermore, interviewees provided additional details on current projects which helped to support the analysis of legal texts and plans.

It is important to emphasise that the lead researcher was able to briefly visit Niger at the end of November 2020, which made securing further contacts in-country easier.

Nigeria

There is a very wide literature available on Nigeria's DRR capacity, covered by papers in scientific journals, government documents, grey literature by international NGOs (INGOs), multilateral agencies and development banks. In total, 194 documents were collated and consulted specifically on disaster risk management (DRM) in Nigeria as part of this assessment. The challenge with Nigeria (unlike in other countries) was therefore being able to prioritise and review the wealth of information available – selectivity was necessary given the parameters of the research.

Grey and scientific literature on Nigeria is largely available for online open access consultation. In regard to government documents, while many older policies and plans are available online (as per the 2002 National Disaster Response Plan (NDRP) and the 2010 National Disaster Management Framework (NDMF)), it proved challenging to access more recent documents to inform progress from 2015 to date. For instance, the research team was only able to access the recent National Disaster Risk Management Policy, adopted in 2019, upon request to the National Emergency Management Agency (NEMA); similarly, the 2017 Gender in DRM Policy draft is not publicly available, as approval is pending.

Primary data collection for the Nigeria assessment took place between January to March 2021. Concerning primary data collection, the research team was able to gather a wealth of useful information through online interviews. Internet connectivity in the country is stable and did not present a significant issue. That said, scheduling the interview with NEMA’s DRR Unit was a long process due to conflicting schedules. Despite multiple attempts, the research team was not able to interview officers from the UNDP Nigeria Country Office (although they did attend the Senior Expert Consultation).

A Senior Expert Consultation was convened on 8 March 2021, attended by a wide range of government and non-government stakeholders involved in DRR including the National Disaster Management Authority (NDMA), Ministry of Environment, the Nigerian Meteorological Organization (NIMET), the National Space Research and Development Agency (NASRDA), Africa Youth Advisory Board, UNDP, and Women for Peace and Development International, among others. All members of the Consultation were given the opportunity to view the full draft country chapter for their input and review, although feedback was extremely limited.

Senegal

In the absence of a national DRR strategy, given the weakness of the institutional coordination mechanisms in the country, information on DRR is not centralised and is challenging to access. Information is primarily held by sector ministries and partners, each with different focal points and individuals who control access to such data/documents. The procedures are long and bureaucratic to access material. Some administrations said they were awaiting authorisation from their superiors. In the end, very few documents were shared by the authorities.

In addition, updates to documents and data are not automatic. The large majority of documents that were obtained were dated pre-2015 and do not therefore exhaustively represent current activities.

The main players in DRR were mostly unavailable to respond to our requests in the context of this assessment. Several emails were sent, directly and by intermediaries, without response. The UNDP, United Nations Office for the Coordination of Humanitarian Affairs (UN OCHA) and the Red Cross were also solicited to help secure access to key interviewees, with variable success. Interviews that did take place occurred between December 2020 and March 2021.

Fortunately, there was strong participation in the Senior Expert Consultation held on 11 March 2021, which made it possible to enrich the content of the assessment.

Interviewees by country

Regional-continental level

Name	Organisation/position
Laurent Bossard	Secretariat, Sahel and West Africa Club (Sahel and West Africa Club of the Organisation for Economic Cooperation and Development, SWAC/OECD) Director of the SWAC/OECD
Sibiri Jean Zoundi	Secretariat, Sahel and West Africa Club (SWAC/OECD) Deputy Director

Dieudonné Goudou	African Development Bank Group / Principal Climate Risk & Disaster Officer Department of Climate Change and Green Growth ClimDev Special Fund (CDSF)
Benard Onzima	African Risk Capacity (ARC) Head of Technical Support Division
Babatunde Iyanda	African Risk Capacity ARC Partnerships Officer and Liaison
Bachir Saley	African Union – Global Monitoring for Environment and Security (GMES) & Africa Senior Scientific Officer
Meshack Kinyua Nditru	African Union – GMES & Africa Space Systems Specialist

Burkina Faso

Name	Organisation/position
Hamindou Diallo	National Council for Emergency Relief and Rehabilitation (Conseil National de Secours d'Urgence et de Réhabilitation, CONASUR)
Martin Bisoka Mbanda	United Nations Development Programme (UNDP)
Celestin Winyermai Poda	UNDP
Oussimane Ouedrago	UNDP
Colonel-Major Lazare Yago	Général de la Protection Civile, Directeur Général de la Protection Civile
Victorien Toe	Technical expert delivering World Bank projects at the Ministry of Transport
Mahamadi Ouedrago	Technical expert delivering World Bank projects at the Ministry of Transport
Nassourou Hama	Technical expert delivering World Bank projects at the Ministry of Transport
Guillaume Nakoulma	National Meteorological Agency (Agence Nationale de Météorologie, ANAM), Met Directorate
Alexis Kaboré	CEFORGIS (Centre de Formation, de Recherche et de Gestion des Risques Sociaux) de l'Université Joseph Ki Zerbo
Cheikh Kane	Red Cross Red Crescent Climate Centre, Climate Resilience Policy Advisor
Jean-Baptiste Migraine	World Meteorological Organization (WMO)
Mikailou Sidibé	G5 Sahel

Chad

Name	Organisation/position
Tesse Mabilo	Directrice de la Direction de la Protection Civile
Singambaye Djekounda	Expert prévisionniste à l'Agence Nationale de la Météorologie

Alexis Djetode	Expert Agro-économiste du Système d'Information sur la Sécurité Alimentaire et d'Alerte Précoce (SISAAP)
Narre Ngamada	Programme des Nations Unies pour le Développement (PNUD) Tchad, Analyste en Relèvement et Résilience Communautaire
Dr Madjigoto Robert	Enseignant Chercheur à l'Université de N'Djamena Département de Géographie
Nadji Tellro waï	Inspecteur en charge de l'environnement et de la pêche au l'environnement de l'eau et de la pêche
Bangoenon Vincent	Géographe-Environnementaliste, Direction de l'Education Environnementale et de la Lutte contre les Changements Climatiques/Ministère de l'Environnement, de l'Eau et de la Pêche
Honorable Mahamadou Djouga Djoddi	Député à l'Assemblée Nationale
Souleymane Toralate	Ministère de l'action sociale
Avec l'appui de la Directrice de la protection civile, des fiches de collecte de données ont été transmises au personnes suivantes:	
<ul style="list-style-type: none"> • Mahamat Brahim, Croix Rouge Nationale • Mouldjede Mbaibam, Ministère de la Santé • Solange Padja, Ministère de l'Environnement • Djekornonde Ngarnadjibe, Ministère Hydraulique 	

Mali

Name	Organisation/position
Cheick Fanta Mady Kone	General Directorate for Civil Protection (<i>Direction Générale de la Protection Civile</i> , DGPC), Coordonnateur Projet Hydromet
Oumar Tamboura	UNDP, Team Leader for environment, climate change and sustainable development
Amadou Ibrahima Guindo	Point Focal DRR Mali. Coordinateur du Centre Nationale des Opérations d'Urgence (CNOU) Direction Générale de la Protection Civile
Anne Daher Aden	United Nations Children's Fund (UNICEF) Emergency Chief
Inge Vervloesem	UNICEF Education Chief
Colonel Olivier Leroux	Conseiller régional Protection civile Mali-Mauritanie Ambassade de France au Mali
Jean Baptiste Migraine	Climate Risk and Early Warning Systems (CREWS)
Cheikh Kane	Red Cross Red Crescent Climate Centre, Climate Resilience Policy Advisor

Mauritania

Name	Organisation/position
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Ousmane Dia	UNDP, Chargé de Programme Environnement Changement Clématique
Mohamed Lemine valy ABDELKADER	Conseiller chargé de la réglementation et des affaires juridiques du Président de la Commission Nationale de Contrôle des Marchés Publics ex Point Focal Sendaï pour le Gouvt de Mauritanie
Mamadou Ndiogdo	World Food Programme Mauritania (Programme Alimentaire Mondial (PAM) Mauritanie)
Oscar Gabbato	PAM Mauritanie
Momme Ducros	International Organization for Migration (IOM), DRR expert
Judith Leveillee	UNICEF
Sidi Ould Mohammed Lemine Bobba	Directeur de l'Exploitation et des Prévisions Météorologiques Office National de Météorologie
Mohammed Ould Hanani	Directeur de la Prévention et du Contrôle
Blandine Bihler	Specialiste de Programme, UNICEF
Colonel Olivier Leroux	Conseiller régional Protection civile Mali-Mauritanie Ambassade de France au Mali
Cheikh Kane	Red Cross Red Crescent Climate Centre, Climate Resilience Policy Advisor

Niger

Name	Organisation/position
Adamou Oumarou	Cellule de Coordination du Système d'Alerte Précoce et de Prévention des Catastrophes (CC/SAP/PC), Coordonnateur SAP
Hachimou Issa	Point Focal Desinventar
Colonel Major Bako Boubacar	Direction Générale de la Protection Civile, Directeur Général
Katielou	Direction de la Météorologie Nationale, Directeur Général
Ousman Baoua	Chef de Division Prévision Direction Météorologie Nationale
Ali Ousseini	PNUD, DRR expert
Yacine Fall	Cadre Mondial des Services Climatiques
Yayé Saidou	Croix Rouge Nigérienne
Mme Boubacar Zynabou Hamza	Directrice de prévention et Alerte aux Catastrophes, Ministère de l'Action Humanitaire et de la gestion des catastrophes
Boubé Chayaya Abdoukadi	CARE International
Pierre Danladi	FICR, Coordonnateur des opérations et des programmes
Malam Soumaila Ibrahim	Membre de l'équipe de réponse d'urgence de la Communauté Économique des États de l'Afrique de l'Ouest (CEDEAO/ECOWAS)

Nigeria

Name	Organisation/position
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Vincent Owan	National Emergency Management Agency (NEMA), Director of the DRR Unit
Daniel Oga Obot	NEMA, Deputy Director of the DRR Unit
Aisha Ibrahim Musa	NEMA
Sunday Anndorbe Amama	NEMA
Caroline Usikpedo	Nigeria representative of Global Network of Civil Society Organisations for Disaster Reduction (GNDR)
Adeyemo Andronicus	Nigerian Red Cross
Karsten Voigt	British Red Cross
Bako Matazu	Nigerian Meteorological Organization (NIMET)
Oluwaseun Wilfred Idowu	NIMET
Veronique Barbelet	Humanitarian Policy Group, Research Fellow
Sarah Njeri	ODI, Research Fellow

Senegal

Name	Organisation/position
Honorable Abdou Sane	Conseiller Technique au Ministère de l'environnement
M. Amadou Lamine Ndiaye	Consultant Coordonnateur élaboration du Rapport CADRI
ADESSOU Kossivi Nevaeme	Western & Central African Regional Development Coordinator, GNDR
Omar Cissé Sow	Compagnie Nationale D'Assurance Agricole du Sénégal, Directeur Technique et Commercial

Disaster recovery

Specific attention was given to the topic of disaster recovery, with additional interviews taking place in June 2021 with the following:

Name	Organisation/position
Charlotte Yaiche	UNDP, Program Manager (France based)
Abha Nigam	UNDP, Country Liaison/Project Officer for PDNA (USA based)
Samuel Akera	UNDP, Global Disaster Recovery Specialist, Disaster Risk Reduction and Recovery for Building Resilience Team, Bureau for Policy and Programme Support (BPPS) (Kenya based)
Rita Missal	UNDP, Senior Recovery Advisor (USA based)

Annex 5: Table of regional groupings

Key	Five or more countries							
	No focus on DRR / drought / hazards							
Regional organisations	Website	Burkina Faso	Chad	Mali	Mauritania	Niger	Nigeria	Senegal
Regional Economic Communities								
AMU – Arab Maghreb Union	http://www.maghrebarabe.org/en/				X			
CEMAC – Central African Economic and Monetary Community	http://www.cemac.int/Accueil		X					
CEN-SAD – The Community of Sahel-Saharan States	https://www.uneca.org/oria/pages/cen-sad-community-sahel-saharan-states	X	X	X	X	X	X	X
ECCAS – Economic Community of Central African States	https://ceeac-eccas.org/en/		X					
ECOWAS – Economic Community of West African States	https://www.ecowas.int/	X		X		X	X	X
WAEMU – West African Economic and Monetary Union (also known under the French acronym, UEMOA)	http://www.uemoa.int/en/about-uemoa	X		X		X		X
Continental / Regional organisation								
Africa Union (Classified as Central Africa)	https://au.int/en/member_states/countryprofile_s2		X					
Africa Union (Classified as North Africa)	https://au.int/en/member_states/countryprofile_s2				X			
Africa Union (Classified as West Africa)	https://au.int/en/member_states/countryprofile_s2	X		X		X	X	X
African Risk Capacity	https://www.africanriskcapacity.org/	X	X	X	X	X	X	X
AUDA-NEPAD – African Union Development Agency-New Partnership for Africa's Development	https://www.nepad.org/who-we-are	X	X	X	X	X	X	X
OIC – Organisation of Islamic Cooperation	https://www.oic-oci.org/home/?lan=en	X	X	X	X	X	X	X

League of Arab States	http://www.lasportal.org/Pages/Welcome.aspx				X			
G5 Sahel	https://www.g5sahel.org/nos-activites	X	X	X	X	X		
Inter-state Committee								
AGRHYMET Regional Centre – Centre Regional de Formation et d'Application en Agrometeorologie et Hydrologie Operationnelle	http://www.agrhymet.net/eng/	X	X	X	X	X		X
CILSS – Permanent Interstate Committee for Drought Control in the Sahel	http://www.cilss.int/index.php/640-2/	X	X	X	X	X		X
UN Regional Office / Grouping								
UNISS – United Nations Integrated Strategy for the Sahel	https://unowas.unmissions.org/supporting-implementation-united-nations-integrated-strategy-sahel	X	X	X	X	X	X	X
United Nations Office for West Africa and the Sahel (UNOWAS)	https://unowas.unmissions.org	X	X	X	X	X	X	X
UN Sustainable Development Group (UNSDG) Africa	https://unsdg.un.org/un-in-action/africa	X	X	X	X	X	X	X
UN – LDC (Least Developed Country)	https://unstats.un.org/unsd/methodology/m49/	X	X	X	X	X		X
UN – LLDC (Land Locked Developing Country)	https://unstats.un.org/unsd/methodology/m49/		X	X		X		
UN – Middle Africa	https://unstats.un.org/unsd/methodology/m49/		X					
UN – West Africa	https://unstats.un.org/unsd/methodology/m49/	X		X	X	X	X	X
UNDRR Regional Office for Africa (in Nairobi coordinates support to 44 Member States in sub-Saharan Africa). Note: There is also a UNDRR-Africa Liaison Office (in Addis Ababa) which provides support to the African Union Commission to implement the Programme of Action.	https://www.undrr.org/about-undrr-where-we-work/africa	X				X	X	X
UNDRR Regional Office for Arab States (ROAS)	https://www.undrr.org/arab-states-0#Countries				X			
UNECA (Central Africa)	https://www.uneca.org/sro-ca		X		X			
UNECA (North Africa)	https://www.uneca.org/sro-na/pages/about-office							
UNECA (West Africa)	https://www.uneca.org/sro-wa	X		X		X	X	X
Commissions								

Commission de lutte contre le Criquet pèlerin dans la région occidentale (Commission for Controlling the Desert Locust in the Western Region)								
LCBC – Lake Chad Basin Commission	https://www.dlco-ea.org/		X			X	X	
COMIFAC – The Central African Forest Commission	https://comifac.org/etats-membres/tchad		X					
CNMC – Cameroon-Nigeria Mixed Commission	https://unowas.unmissions.org/cameroon-nigeria-mixed-commission						X	
The Gulf of Guinea Commission	https://cggrps.com/en/#						X	
Alliance								
The Sahel Alliance	https://www.alliance-sahel.org/en/sahel-alliance/	X	X	X	X	X		
The Global Alliance for Resilience Initiative (AGIR) (EU Initiative)	https://ec.europa.eu/echo/what/humanitarian-aid/resilience/sahel-agir_en	X	X	X	X	X	X	X

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Chapter 6: Mauritania

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Chapter 9: Senegal

General overview and risk profile

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Chapter 10: Regional and continental level

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Chapter 12: Upgrading the PoA

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