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PROJECT REPORT

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Disaster Risk Management

Review of Existing Frameworks and Initiatives in Libya

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EXECUTIVE SUMMARY

This report was initiated by the IOM Libya Community Stabilization team in order to establish a baseline of existing stakeholders, initiatives, legislative arrangements and frameworks pertaining to disaster risk and climate change in Libya. Indubitably, the geo-political and fragmented governmental situation in the country has resulted in significant neglect for disaster risk and climate change management at multiple administrative levels.

The minimal literature, research and reports for Libya prompted a justification to ascertain the nature, type, quantity and quality of the various stakeholders, government departments, projects and frameworks. The information gathering process has led to several beneficial discoveries including: the key actors in disaster risk and climate change, possible entry points for creating strategic steering groups, a clearer understanding of emergency response at the local level, and a definite appraisal of the gaps in resources, knowledge, understanding and technical skill relating to disaster risk and climate change.

Additionally, a pilot hazard identification and risk analysis overview has been conducted demonstrating requirement for a more detailed in-country assessment and data-collection process. It is clear that climate change is exacerbating existential risks in Libya. Flooding, wildfires and sandstorms are more frequent. Water scarcity is at it's highest level, and daily occurrences of fire, road traffic collisions and work-related accidents place an immense strain on the National Safety Authority, Civil Defence and community-based voluntary organisations.

The conducted workshops facilitated excellent engagement and learning, for both IOM and government authorities. The participative sessions allowed further information gathering. This was reinforced with Libyan case studies and imagery from local emergencies and major incidents- which again highlighted the lack of capacity and capability in services.

This report is the first to establish a baseline analysis of disaster risk and climate change management in Libya. Further analysis and engagement is required, particularly at the senior strategic level of key government agencies including the Office of the Prime Minister, the Ministry of Interior and the Ministry of Transportation.

Gauging the optimism and enthusiasm of engaged Libyan stakeholders; new knowledge and understanding, in addition to an initial platform, is now in place to build on the foundational workshops and research. The new 2022 National Safety Authority legislation can be further developed into a best-practice, yet Libyan-specific, disaster risk framework which can facilitate strategy, plans and operational policies. As practically as possible, such a framework should interlope with climate change adaptation and other nexus-related research and practice..

TABLE OF CONTENTS

FIGURES, TABLES AND IMAGES LIST

DISASTER RISK AND CLIMATE CHANGE TERMINOLOGY[1]

Acute Hazards	Event-driven, including increased severity of extreme weather events, such as cyclones, hurricanes and floods.
Chronic Hazards	Longer-term shifts in climate patterns (e.g. sustained higher temperatures) that may cause sea level rises or chronic heat waves.
Climate Change Adaptation	Adaptation refers to adjustments in ecological, social or economic systems in response to actual or expected climatic stimuli and their effects. It refers to changes in processes, practices and structures to moderate potential damages or to benefit from opportunities associated with climate change.
Climate Smart Disaster Risk Management	Systems and processes to address climate change, disaster risk reduction and development not only at policy level, but also at the implementation level.
Critical Infrastructure	The physical structures, networks and other assets that are necessary to the social and economic functioning of a society or community.
Disaster	A serious disruption of the functioning of a community or a society at any scale due to hazardous events interacting with conditions of exposure, vulnerability and capacity, leading to one or more of the following: human, material, economic and environmental losses and impacts.
Other Hazards/ Disasters	Technological, road, rail, marine, and air accidents, as well as fires, dam failures, environmental or industrial nuclear accidents and other man-made accidents, war, or emergency situation, the use of weapons and means of mass destruction, terrorist attacks, and other forms of mass violence.
Disaster Risk Governance	The system of institutions, mechanisms, policy and legal frameworks and other arrangements to guide, coordinate and oversee disaster risk reduction and related areas of policy.
Disaster Risk Management	Disaster risk management is the application of disaster risk reduction policies and strategies to prevent new disaster risk, reduce existing disaster risk and manage residual risk, contributing to the strengthening of resilience and reduction of disaster losses.

[1] https://www.undrr.org/terminology

Disaster Risk Reduction	Preventing new and reducing existing disaster risk and managing residual risk, all of which contribute to strengthening resilience and therefore to the achievement of sustainable development.
Early Warning System	An integrated system of hazard monitoring, forecasting and prediction, disaster risk assessment, communication and preparedness activities systems and processes that enables individuals, communities, governments, entities and others to take timely action to reduce disaster risks in advance of hazardous events.
Emergency	Used interchangeably with the term disaster, as, for example, in the context of biological and technological hazards or health emergencies, which can also relate to hazardous events that do not result in the serious disruption of the functioning of a community or society. On a simplistic scale, an emergency may be at the lower end; a disaster at the upper end.
Exposure	The situation of people, infrastructure, housing, production capacities and other tangible human assets located in hazard-prone areas.
Hazard	A process, phenomenon or human activity that may cause loss of life, injury or other health impacts, property damage, social and economic disruption or environmental degradation.
Mitigation	The lessening or minimizing of the adverse impacts of a hazardous event.
Preparedness	The knowledge and capacities developed by governments, response and recovery organisations, communities and individuals to effectively anticipate, respond to and recover from the impacts of likely, imminent or current disasters.
Recovery	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"/ "build to last" to avoid or reduce future disaster risk.
Resilience	The ability of a system, community or society exposed to hazards to resist, absorb, accommodate, adapt to, transform and recover from the effects of a hazard in a timely and efficient manner, including through the preservation and restoration of its essential basic structures and functions through risk management.

Response	Actions taken directly before, during or immediately after a disaster in order to save lives, reduce health impacts, ensure public safety and meet the basic subsistence needs of the people affected.
Vulnerability	The conditions determined by physical, social, economic and environmental factors or processes which increase the susceptibility of an individual, a community, assets or systems to the impacts of hazards.

SECTION 1
BACKGROUND AND INTRODUCTION

1. BACKGROUND AND INTRODUCTION

COUNTRY PROFILE

More than a decade after the 2011 Arab Spring and the subsequent civil war in Libya, years of political instability and the economic impact of the COVID-19 pandemic have resulted in Libya remaining in a fragile state of transition to peace and stability.

Libya – historically one of the world's most prolific oil-producing nations – previously maintained large trade surpluses. The country is bordered by the Mediterranean Sea to the north and the wide expanse of the Sahara Desert to the south. Tunisia and Algeria border the east and west respectively. Unfortunately, internal conflict has resulted in thousands of casualties, displacement and geo-political disputes since 2011.

A ceasefire in October 2020 paved the way for the formation of a Government of National Unity (GNU) in March 2021. Key issues remain unresolved and rendered Libya unable to move forward on the development of a new constitution, or to hold free and open elections. The prolonged crisis and limited transparency led to a liquidity crisis and currency devaluation, exhausting social safety nets and causing a regression in progress previously made on reducing malnutrition. An estimated 324,000 people are still in need of food assistance.

The Index for Risk Management (INFORM), indicates that Libya has deteriorated from the already high score of 5.7 to an alarming 6, topping the seven countries which are at a high risk of humanitarian crisis and likely to require international assistance in the region. The index tells us that Libya suffers from high exposure to many hazards coupled with high vulnerability and low coping capacity of both people and state systems and infrastructure. While this information is alarming, the consequences of various crises and emergencies that have hit the country over the past decade are best understood by the people of Libya whose coping capacity and resilience has successively eroded following a decade-long, multi-faceted security, economic and humanitarian crisis. In the 2022 Libya Humanitarian Overview the United Nations estimated 0.3 million people would be in need of humanitarian assistance for 2023 . The Covid-19 pandemic is yet another layer of a complex national crisis that continues to challenge the coping and recovery capacity of both the population and the national institutions.

1.1 PROJECT BACKGROUND

IOM are working with the Libyan government and other stakeholders as part of their ambition to implement the SFDRR. The project is one part of a broader programme of work to support Libya in its ability to respond to disasters and crises.

The focus of this project **is to contribute to strengthened preparedness and response capacities of local authorities and strengthened resilience of disaster-affected and at-risk communities to mitigate the impact of climate related disasters and extreme weather events in Libya.**

Despite Libya's incapacity to implement the disaster risk governance, reduction or management, the African Union's Heads of State and Government adopted the Programme of Action (PoA) in January 2017. The PoA outlines Africa's aims to implement the Sendai Framework Disaster Risk Reduction (SFDRR).

The SFDRR has seven targets:

1. Reduce continental disaster mortality.
2. Reduce the number of affected people.
3. Reduce direct disaster economic loss.
4. Reduce disaster damage to critical infrastructure and disruption of basic services, among them health and educational facilities, including through developing their resilience.
5. Increase the number of countries with national and sub-national/local disaster risk reduction strategies.
6. Enhance international cooperation to developing countries through adequate and sustainable support to complement national actions for implementation of the Sendai Framework.
7. Increase the availability of and access to multi-hazard early warning systems and disaster risk information and assessments to people.

1.2 SCOPE

This report synthesises existing information from previous research studies and in-country workshops with key stakeholders to provide a foundation for DRM work in Libya.

The report provides:

- A mapping of institutional frameworks in order to provide a comprehensive appraisal on the current situation in terms of national, legal and institutional frameworks, stakeholders involved in DRM, their roles and coordination practices. IOM has undertaken a mapping exercise to build a more comprehensive understanding of the existing institutional frameworks and the impact of natural hazards on communities and risk management initiatives applied.
- An identification and analysis of risks, hazards and resilience capacity paralleled with their potential impact on communities.
- A review of existing national or local level disaster risk management (DRM) initiatives to identify good practices.

The report includes recommendations to guide follow-up interventions, including policy and preparedness development initiatives and plans, provision of assistance and technical cooperation with relevant national authorities.

1.3 METHODOLOGY

1.3.1 Desk Research

A review of literature, reports, mainstream and social media has provided the majority of content for this report. Given the conflict-related events and natural hazards in Libya, it has been somewhat surprising that academic, scientific or practitioner research relating to disaster risk and climate change, has been minimal.

This may be attributed to a number of factors including: the geo-political and conflict situations deterring researchers; lack of academic institutions; and an extensive focus on migrancy.

The desk review of secondary research focused on national and legal arrangements, stakeholders and risk profiling of hazards in Libya.

1.3.2 Stakeholder Identification

Given the political situation in Libya, it has been difficult to establish stakeholders from desk research. IOM staff engagement and additional internal knowledge has been extremely useful in comprehending the multi-tiered political landscape.

Some stakeholders had been identified by local IOM staff based on previous activities and work in the Libyan country offices.

1.3.3 Localised Hazard Identification

As hazard research and data in the various municipalities was minimal, it was decided to undertake a hasty hazard identification and risk assessment. This was carried out by local IOM staff in Libya using Kobo Collect (Annex 1).

1.3.4 Disaster Risk Training with Libyan Stakeholders

Two training workshops were delivered, one online and one in Tunis. The engagement with the Libyan authorities in-person, facilitated a clearer picture of the disjointed and ad-hoc disaster risk, climate change and emergency response structures and approach.

1.4 RELEVANT GLOBAL DOCTRINE AND FRAMEWORKS

Current doctrine for Disaster Risk Reduction is embodied in the Sendai Framework for Disaster Risk Reduction 2015-2030 (Sendai Framework).

The Sendai Framework is the successor to the Hyogo Framework for Action (HFA) 2005-2015[2]: Building the Resilience of Nations and Communities to Disasters. The HFA was conceived to give further impetus to the global work under the International Framework for Action for the International Decade for Natural Disaster Reduction of 1989, and the Yokohama Strategy for a Safer World: Guidelines for Natural Disaster Prevention, Preparedness and Mitigation and its Plan of Action, adopted in 1994 and the International Strategy for Disaster Reduction of 1999.

It was the first major agreement of the post-2015 development agenda and provides Member States with concrete actions to protect development gains from the risk of disaster.

In addition, the Sustainable Development Goals and The Paris Climate Agreement warrant significant reference in Climate Smart Disaster Risk Management (CSDRM).

[2] Between 2005-2015, over 700 thousand people have lost their lives, over 1.4 million have been injured and approximately 23 million have been made homeless as a result of disasters. Overall, more than 1.5 billion people have been affected by disasters in various ways, with women, children and people in vulnerable situations disproportionately affected. The total economic loss was more than $1.3 trillion. In addition, between 2008 and 2012, 144 million people were displaced by disasters. Disasters, many of which are exacerbated by climate change and which are increasing in frequency and intensity, significantly impede progress towards sustainable development. Source: UNISDR, Sendai Framework for Disaster Risk Reduction 2015-2030, https://www.preventionweb.net/files/43291_sendaiframeworkfordrren.pdf?_gl=1*plp4yq*_ga*MzkwNzY3ODc5LjE2Nzg5ODA0Njc.*_ga_D8G5WXP6YM*MTY3ODk4MDQ2Ny4xLjEuMTY3ODk4MDY3OS4wLjAuMA, Accessed 16th March 2023

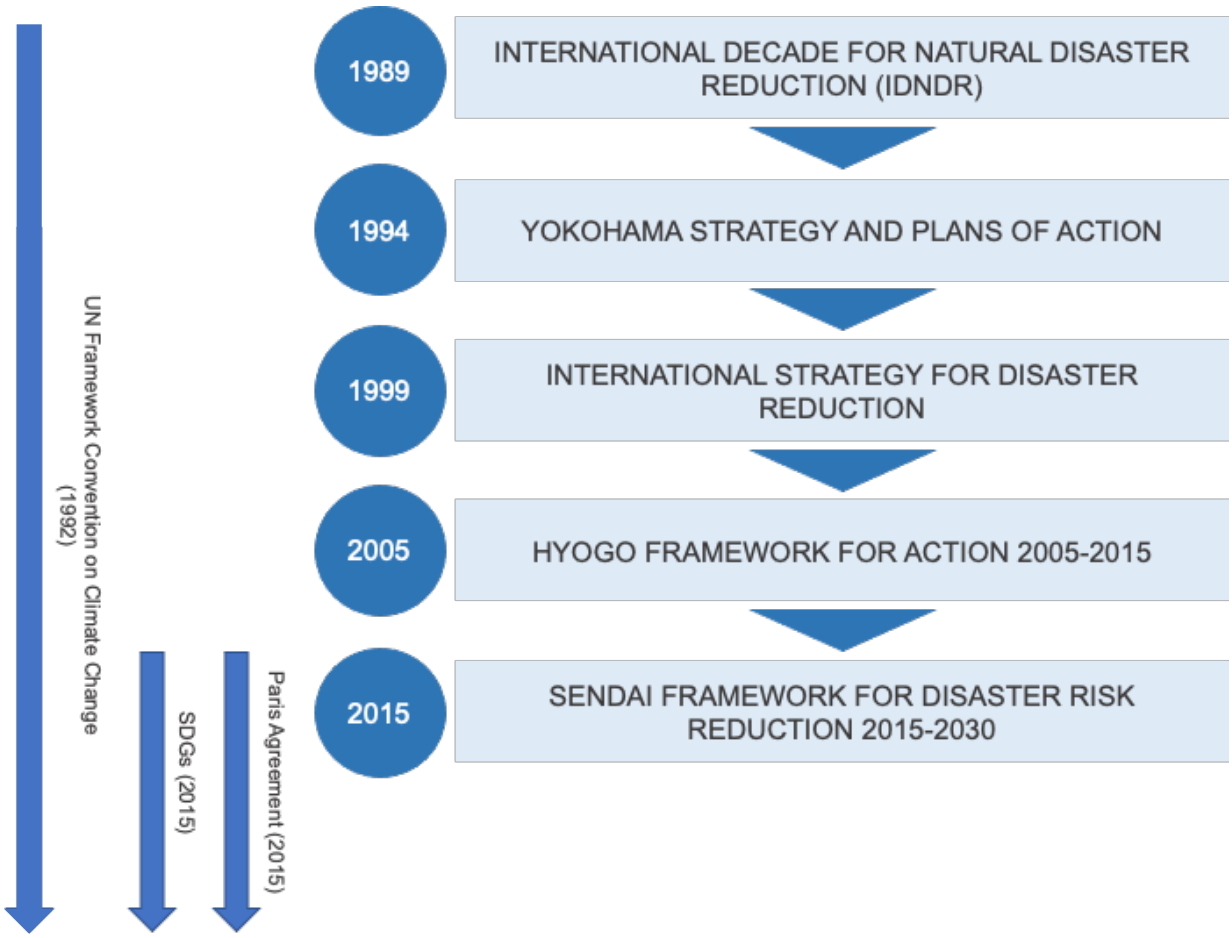


Figure 1. Growth in global doctrine and frameworks.

1.5 THE SENDAI FRAMEWORK

The Sendai Framework works associatedly with the other 2030 Agenda agreements, including The Paris Agreement on Climate Change, The Addis Ababa Action Agenda on Financing for Development, the New Urban Agenda, and ultimately the Sustainable Development Goals.

It was endorsed by the UN General Assembly following the 2015 Third UN World Conference on Disaster Risk Reduction (WCDRR), and advocates for:

> 'The substantial reduction of disaster risk and losses in lives, livelihoods and health and in the economic, physical, social, cultural and environmental assets of persons, businesses, communities and countries.'

It recognizes that the State has the primary role to reduce disaster risk but that responsibility should be shared with other stakeholders including local government, the private sector and other stakeholders.

UNDRR is tasked to support the implementation, follow-up and review of the Sendai Framework which has four priorities:

- Priority 1: Understanding Disaster Risk
- Priority 2: Strengthening Disaster Risk Governance to Manage Disaster
- Priority 3: Investing in Disaster Risk Reduction for Resilience
- Priority 4: Enhancing Disaster Preparedness for Effective Response and to "Build Back Better" in Recovery, Rehabilitation and Reconstruction

The framework makes a significant shift to disaster risk management as opposed to disaster management. It also expands the scope of disaster risk reduction which has been broadened to focus on both natural and human-induced hazards and related environmental, technological and biological hazards and risks (including health risks such as a pandemic)[3].

Figure 2. The Sendai Framework for Disaster Risk Reduction.

[3] UNISDR, Sendai Framework for Disaster Risk Reduction 2015-2030, https://www.preventionweb.net/files/43291_sendaiframeworkfordrren.pdf?_gl=1*plp4yq*_ga*MzkwNzY3ODc5LjE2Nzg5ODA0Njc.*_ga_D8G5WXP6YM*MTY3ODk4MDQ2Ny4xLjEuMTY3ODk4MDY3OS4wLjAuMA, Accessed online 16th March 2023

1.6 THE SENDAI FRAMEWORK IN NORTH AFRICA

The Report on Disaster Risk Reduction 2015-2018[4] looked at progress against the Sendai Framework in North Africa. The report found that while Algeria, Egypt and Tunisia had made good progress against Africa Program of Action (PoA) DRR[5] targets, Mauritania and Morrocco had made more limited progress. Algeria, Libya and the Sahrawi Republic/ Western Sahara did not provide any data to demonstrate progress against Africa PoA DRR targets.

The report identified the limitations of its assessment given the lack of available data and reporting to provide a complete evaluation. Amongst its key recommendations it proposed that:

1. North African countries should establish a joint plan of action for the region.
2. North African countries should meet face to face for a better and effective cooperation.
3. A national DRR database to be established where all the DRR information must be collected and validated in a continuous way which will make national data available when needed (including the collection of disaggregated data on gender, age, children, abilities and vulnerable groups).
4. Scientists and policy-makers should work together for better DRR solutions.
5. DRR capacity building should continue to take place and that there is an obligation to organise training and exercises at all levels.

1.7 SUSTAINABLE DEVELOPMENT GOALS

Figure 3. The Un Sustainable Development Goals.

[4] Report on Disaster Risk Reduction 2015-2018, North Africa Countries, Intergovernmental Authority on Development African Union Commission (2020), https://www.preventionweb.net/publication/report-disaster-risk-reduction-2015-2018-inter-governmental-authority-development. Accessed online 23rd March 2023.

Key Goals relevant to disaster risk and climate change in Libya include:

SDG 1 No Poverty

By 2030, build the resilience of the poor and those in vulnerable situations and reduce their exposure and vulnerability to climate-related extreme events and other economic, social and environmental shocks and disasters.

SDG 3 Good Health and Wellbeing

By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination.

SDG 5 Achieve gender equality and empower all women and girls

Adopt and strengthen sound policies and enforceable legislation for the promotion of gender equality and the empowerment of all women and girls at all levels.

SDG 6 Clear water and sanitation

By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally.

SDG 9 Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation

Develop quality, reliable, sustainable and resilient infrastructure, including regional and transborder infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all.

SDG 11 Sustainable cities and communities

By 2030, significantly reduce the number of deaths and the number of people affected and substantially decrease the direct economic losses relative to global gross domestic product caused by disasters, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations.

SDG 13 Climate Change

Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries.

1.8 CLIMATE CHANGE ADAPTATION AND THE PARIS AGREEMENT

The need for coherence between Climate Change Adaptation (CCA) and DRR has been identified by the SDGs on the global level and by the EU on a regional level. Existing CCA findings and reports coming from various sources talking about the lasting conditions of high temperatures and low precipitation, the change of patterns and frequency of occurrence of high precipitation events causing flash floods and landslides, among others, are not disputed by the DRR sector. On the contrary, taking into consideration long term climate scenarios is becoming a requirement of future disaster risk assessments and consequently of national DRR strategies.

The Paris Agreement and the 2030 Agenda for Sustainable Development (including the Sustainable Development Goals) both highlight the importance of climate adaptation and disaster risk reduction. UNDRR states that if we want to reduce risk effectively, we must join up in our approaches and must include all relevant sectors, cooperate within institutions, and ensure harmony from policy through to activity.

1.9 DISASTER RISK CONCEPTS AND TRENDS

An emerging trend which blends the concepts of disaster risk and climate change adaptation is Climate Smart Disaster Risk Management (CSDRM).[6] This approach mainstreams adaptation to climate change and disaster risk reduction/ management within development at the community level. CSDRM helps to evaluate the existing tools and frameworks from disaster risk management, climate change adaptation and development that are accurate for particular programmes or projects. Moreover, it helps to build partnerships and evaluate progress through concrete indicators that can help implementation of policies that are disaster resilient.

Key processes within CSDRM and the wider disaster risk management spectrum include hazard identification; vulnerability, exposure and (coping) capacity analysis, and risk assessment- culminating in a risk rating for the particular hazard.

The sector is everchanging in aspects of strategic and community level practice. It is noteworthy that a vast amount of experience, research, lessons learned and case studies exist which may assist the development and implementation of an evidence-based disaster risk/ climate change framework in Libya.

[6] https://www.undrr.org/publication/institutionalising-climate-smart-disaster-risk-management-approach

1.10 CLIMATE CHANGE ADAPTATION CONCEPTS AND TRENDS

Climate adaptation literature is developing and diversifying. Five key themes have emerged over the last twenty years of academic study. 1. Vulnerability, resilience and disasters; 2. Risks, management and uncertainty; 3. Strategies, agriculture and water; 4. Policy, governance & planning; 5 Mitigation, sustainability and environment[7].

Early approaches to climate adaptation focused on 'predict and prevent' strategies. One of the criticisms of this approach is the increasingly variable and uncertain nature of climatic conditions, governments and stakeholders may face challenges in projecting the likely impacts of climate change based on historical data[8].

In parallel to this 'predict and prevent' strategy, there is a growing focus on developing greater resilience at an international, national and local level. The Intergovernmental Panel on Climate Change (IPCC) definition of resilience is:

> 'The ability of a system, community or society exposed to hazards to resist, absorb, accommodate, adapt to, transform and recover from the effects of a hazard in a timely and efficient manner, including through the preservation and restoration of its essential basic structures and functions through risk management'.

The concept of 'resilience' is now a core element within climate NAPs (National Adaptation Plans). The UNFCCC summarized four key areas in the international progress on climate adaptation with many countries now in the process of developing NAPs[9].

1. Emerging picture of climate-related impacts and hazards across the globe:

   Changes in climate indicators including temperature, rainfall and the rise in sea levels. In parallel, we are witnessing the rise in number and intensity of climate risks and hazards (floods, drought, extreme weather events, changing seasonal patterns, changes in the distribution of species and diseases). These are likely to impact economic sectors, in particular water resources, agriculture, ecosystems, health and forestry.

[7] Nalua, J and Verrall, B, Mapping the Evolution and Current Trends in Climate Change Adapatation Science, Published by Elsevier (2021), https://reader.elsevier.com/reader/sd/pii/S221209632100019X?token=71AD7727F0D35CC34E8E54F7C1288400AF61717DC209154C6A91F18785EE4E10653AD7E70A56AD8260414B15F7436382&originRegion=eu-west-1&originCreation=20230316173118, Accessed online 16th March 2023.

[8] Tyler, S and Moench, M, A Framework for Urban Climate Resilience, https://www.tandfonline.com/doi/epdf/10.1080/17565529.2012.745389?needAccess=true&role=button, published by Climate and Development (2012), Accessed online 16th March 2023

[9] Tyler, S and Moench, M, A Framework for Urban Climate Resilience, https://www.tandfonline.com/doi/epdf/10.1080/17565529.2012.745389?needAccess=true&role=button, published by Climate and Development (2012), Accessed online 16th March 2023

2. Transition towards climate-resilient societies and economies:

More than 90 countries have launched the process to develop and deliver a NAP but challenges remain around scientific, political, technological, investment and public support, which hinder efforts to prepare fully for the expected global temperature increase.

3. Increasing establishment of institutional arrangements for planning, funding, implementing, monitoring and evaluating climate action reflecting a growing awareness of the need to address climate change:

This constitutes a broad trend in the uptake of climate change adaptation and mitigation policies and initiatives within government structures. Climate change is growing in profile on national political agendas. Inter-ministerial committees are being established to oversee climate action combined with national monitoring, evaluation and reporting processes.

These have been supported by the transparency initiatives outlined in Convention and the Paris Agreement.

Gaps remain in many countries in institutional capacity across government ministries and agencies. This situation is enhanced by a continued reliance on external assistance, driven by a lack of permanent institutional arrangements and integrated approaches to capacity-building at the national level. These gaps pose barriers to building and retaining capacity in developing countries.

4. New instruments are adopted, actions proven effective are replicated, existing policies are reformulated and less effective policies are discontinued.

The range of initiatives and instruments available to support climate action are growing and becoming more integrated across many countries. The UNFCCC outlines some of these adaptation measures which include:

- Formulating and implementing NAPs
- Sector-specific pre-emptive interventions
- Integrating adaptation into strategies
- Policies, plans and investments
- Enhancing the information basis
- Strengthening national institutions and building institutional capacity
- Identifying contingency measures to facilitate recovery from unavoidable impacts.[10]

[10] UNFCCC, Climate Action and Support Trends, https://unfccc.int/sites/default/files/resource/Climate_Action_Support_Trends_2019.pdf, (2019), Accessed online 16th March 2023

SECTION

2

LEGAL AND INSTITUTIONAL ARRANGEMENTS **RELATING TO DRM IN LIBYA**

2.0 LEGAL AND INSTITUTIONAL ARRANGEMENTS RELATING TO DRM

2.1 OVERVIEW

Despite Libya's vulnerability and exposure to the impacts of climate change and environmental degradation, there has been little progress towards the development and implementation of national disaster risk reduction or climate change adaptation strategies or plans.

Recognising that a whole-of-society approach is a prerequisite for a sustainable, healthy environment and resilience building to disasters and climate change impacts in Libya, the UN is collaborating with a diverse range of partners.

This includes all levels of goverment, municipalities, international and national non-govermental organizations, civil society organizations, research institutions, private sector, General Electricity Company of Libya, Renewable Energy Authority of Libya, National Oil Corporation, National Meteorological Center, financial institutions, worker and employer organizations, educational institutions, women and youth-led movements, in addition to other bilateral and multilateral agencies and donors.

At a national level, partnerships are being strengthened with key ministries, including the Ministry of Planning; Ministry of Health; Ministry of Interior; Local government; Environment; Youth; Women's Affairs; Water Resources (including relevant service providers such as the Great Man-Made River Project, the General Company for Water and WasteWater, and the Desalination Company), as well as the National Centre for Disease Control. The UN continues to strengthen national and local capacities and institutional arrangements to ensure the sustainability of its interventions.

2.2 NATIONAL AND LEGAL FRAMEWORKS

The Ministry of Interior has overall responsibility for DRM. Specifically, it is the National Safety Authority, a sub-ministry department, which is accountable. Separate organisations covering civil defence and fire protection were established in 1971. As yet, there is no national platform for DRM.[11] No legislation exists for climate change management or adaptation.

[11] UNISDR, DRR Inventory of Africa, https://www.preventionweb.net/files/18926_africadrrinventoryfinal.pdf?_gl=1*k075s7*_ga*MzkwNzY3ODc5LjE2Nzg5ODA0Njc.*_ga_D8G5WXP6YM*MTY3OTU1NTAxOC40LjEuMTY3OTU1NTIyNy4wLjAuMA (2010). Accessed online 23rd March 2023.

Civil Defence legislation from 1971 is 'Law no. (11) of 1971 on Civil Defence'. It was developed by the Revolutionary Command Council and presents 26 Articles, relating to:

1. Civil Defence tasks including firefighting, search and rescue
2. Disaster and emergency planning including natural disaster response
3. State funding
4. District civil defence governance
5. Trials and testing (which may be construed as research and development)
6. State of Emergency procedures
7. Issuance of various decrees pertaining to civil defence.

Civil Defence is a wide-ranging term that originated from the First World War due to the various emergencies as a result of aerial bombardment. Many countries adopted the term for their emergency services and it is regularly used to this day, particularily in Africa, the Middle East and Asia.

The International Civil Defence Organization (ICDO) is an intergovernmental organization whose objective is to contribute to the development of States' structures, ensuring the protection and assistance of populations and safe-guarding property and the environment in the face of natural and human-induced disasters. Libya is listed as a member state.[12]

Interestingly, a relevant decree has been issued as of 2022 in Libya. It is unclear if this decree has been formally implemented. Decree of the Council of Ministers of the Government of National Unity (GNU) No. 449 of 2022, establishes a reorganization of the National Safety Authority (NSA). The content of this Decree includes 14 Articles relating to:

1. The NSA organisational structure and management including a President and Vice-President
2. Financial resources
3. Establishment of a 'Supreme Council for National Safety'
4. Implementation of Law No. 11 of 1971 (above-mentioned) and additional, updated activities
5. Establishment of a Tripoli Headquarters and regional branches.

This is a positive and progressive step but does not directly align with various international doctrine and standards for disaster risk and climate change management.

Other Climate Related Laws and Policies: Libya was an early pioneer of renewable energies, commencing its first project in 2009-2010. It has passed two relatable laws and policies in early

[12] https://icdo.org/about-icdo/members/member-states.html

steps to combat climate change. Firstly Law No. 426, 'Establishing the Renewable Energy Authority of Libya' (REAOL) passed in 2007. REAOL was created to support the national target of increasing the energy mix coming from renewable energies by 10% in 2020.

This was further supported by the Libya Renewable Energy Strategic Plan 2013-2025.[13] The plan revised national ambitions to 7% in 2020 and 10% by 2025 with an energy mix combining wind, solar and solar water heating[14].

However, due to a number of factors, these initiatives have shown limited progress and the levels of renewable energy production that are inputted into the national electricity grid are low[15]. Libya's National Economic and Social Development Board Electricity and Renewable Energy Committee are in the process of developing the National Sustainable Energy Strategy until 2035.[16]

There is limited evidence beyond the energy sector that laws or policies have progressed around climate related disaster risk management.

2.3 DRM STAKEHOLDERS

In addition to the Ministry of Interior, there are a range of stakeholders that are actively involved or ready to support DRM efforts in Libya. These range from Libya's own governmental institutions, multi-lateral and bi-lateral support initiatives and international NGOs.

2.3.1 Government (ministries, municipalities, local etc)

- Desalination Company
- General Company for Water and Wastewater
- General Electricity Company of Libya
- Ministry of Environment
- Ministry of Health
- Ministry of Local government
- Ministry of Planning
- Ministry of Water Resources (including relevant service providers such as the Great Man-Made River Project)
- Ministry of Women's Affairs

[13] LSE, Climate Laws of the World, Libya. https://www.climate-laws.org/legislation_and_policies?from_geography_page=Libya&geography%5B%5D=100&type%5B%5D=executive. Grantham Research Institute on Climate Change and the Environment. Accessed online 23rd March 2023.

[14] International Energy Agency, Renewables Policies Database, https://www.iea.org/policies/5908-libya-renewable-energy-strategic-plan-2013-2025, (2018). Accessed online 23rd March 2023.

[15] Zaptia, Sami, Libya's 2018-2030 Renewable Energy Strategic Plan is ready, studies complete and studies put out: REAoL, https://www.libyaherald.com/2021/07/libyas-2018-2030-renewable-energy-strategic-plan-is-ready-studies-complete-and-tenders-put-out-reaol/. Libya Herald, (2021). Accessed online 23rd March 2023.

[16] UNDP, Libya Electricity Sector Stablization and Transition Support, https://www.undp.org/libya/projects/libya-electricity-sector-stabilization-and-transition-support-lesst. Accessed online 23rd March 2023.

- Ministry of Youth
- National Centre for Disease Control
- National Meteorological Center
- National Oil Corporation
- National Safety Authority
- Renewable Energy Authority of Libya

2.3.2 Non-Government (NGOs and CSOs)

Insecurity resulting from conflict has hindered the work of NGOs operating in Libya. Difficult to navigate processes have posed challenges for some regarding visa applications and renewing NGO registrations.

- International Committee of the Red Cross in Libya
- International Energy Foundation in Libya
- International Rescue Committee
- Libyan Scout Movement
- Red Crescent Society
- Roaya Amateur Astronomy
- Saferworld.

Other

- ACTED
- Action Contre La Faim
- CEFA
- Danish Refugee Council
- DCA
- Geneva Call
- Handicap International
- HelpCode
- International Medical Corps UK
- INTERSOS
- Libyan INGO Forum
- Premiere Urgence International
- Terre des Hommes
- The Halo Trust
- We World

2.3.3 International

- African Union
- European Commission
- Sida SE
- UN Development Programme
- UN International Organisation for Immigration
- UN Support Mission in Libya

2.4 IDENTIFIED KEY STAKEHOLDERS

The list below is derived from IOM UN experience and engagement, media reports, social media outlets and interaction with personnel during the DRM training workshops. More research and discussion is required to determine exactly how these stakeholders could be significant actors in disaster risk and climate change activity in Libya, both legislatively and practically.

2.4.1 National Safety Authority (NSA)

The NSA consists of seven branches which are sub-divided into population-based divisions. These seven branches are Western Region, Southern Region, Central Region, Eastern Region, Green Mountain Region, Western Mountain Region and Oasis Region. As it is legislatively authorised under the Ministry of Interior, the NSA is deemed the mandated and functional agency for civil defence, emergency planning and emergency response..

Figure 4. National Safety Authority logo.

The National Safety Authority provide emergency response services for emergencies and disasters in Libya. Their full capability portfolio and organisational structure is unknown.

A team of personnel were deployed to Turkey to assist with the 2023 earthquake response. Their mission and tasks in Turkey remain unclear as research indicates that Libya does not have a (UN INSARAG or other) qualified and specifically trained team for earthquake or multi-hazard response.[17]

Additionally, the NSA is responsible for explosive ordanace disposal (EOD) and countering improvised explosive devices (C-IED). International training by the UN Mine Action Service (UNMAS) has been provided but a distinct lack of equipment and training exists.

Image 1. Libyan personnel deploying to the Turkey earthquake.

2.4.2 National Meterology Centre (NMC)

The National Meterology Centre is headquartered in Tripoli with an office in Benghazi. There are weather monitoting stations sited in other locations in the country however their operational status is unclear. The NMC is a department within the Ministry of Transportation. The NMC was initially established to monitor and report weather for air traffic control and management.

NMC personnel have an office in Benghazi which is responsible for climate change adapation however the exact mandate is unclear. Libya does not have a UNIFCC administered National Adaptation Plan (NAP). Although the House of Representatives in the Government of National Unity has approved the ratification of the Paris Agreement, it is unclear if it has been formally indoctrinated. [18]

[17] https://vosocc.unocha.org/USAR_Directory/USARTeamsByCountry.asp
[18] https://libyaobserver.ly/inbrief/libyan-parliament-ratifies-paris-climate-agreement

2.4.3 Minisitry of Health (MoH)

Similar to many MoHs in developing countries, Libya gained immense experience in acute and chronic emergency response during the Covid-19 pandemic. Additionally, the World Health Organisation in Libya implements an extremely professional and functional tiered Incident Management System, Emergency Operations Centre training and other capacity development activities relating to healthcare emergency response.

2.4.4 Libyan Red Crescent

The Libyan Red Crescent was founded in 1957. It was recognized by the ICRC in 1958 and joined the International Federation the same year. The Libyan Red Crescent (LRC) is a legal entity governed by its own statutes, which were drawn up in conformity with the IFRC Fundamental Principles. It's objectives are to support health and social solidarity, by contributing to the development of health services and cooperating with international organizations. The LRC is particularly active in health, the blood-transfusion service, first-aid training (especially community-based first aid) and HIV/AIDS prevention. The LRC cooperates with the government, particularly with the ministries of health, defence and foreign affairs.

The general assembly of the LRC strategy includes:

1. Disaster relief/preparedness: The LRC participates in national disaster relief operations.

2. Activities also focus on disaster preparedness including establishing warehouses with disaster stocks, and recruiting and training volunteers and field personnel for disaster relief operations. The society also contributes to the International Federation's relief operations.

3. Health is the LRC's main activity and the society provides medical services through its health centres in Tripoli, Misurata and Benghazi. The LRC has out-patient clinics in 48 cities around the country.

4. Primary health care: Health education, environmental sanitation and first-aid training, especially using the community-based approach, constitute important activities in this field.

5. The LRC contributes to blood-donation education and awareness programmes, and also carries out blood grouping and filling, screening for HIV/AIDS and other infectious

diseases. In the branches, the recruitment of donors constitutes the main activity in the field of blood services.

6. Youth and volunteers: At the central level, youth training camps for first-aid, relief operations and sea rescue for staff and volunteers are organized across the country. Exhibitions and competitions are also organized.

7. At the branch level, the LRC forms youth teams in schools to promote the society's role and objectives and organizes first-aid training programmes.

8. The LRC plays an important role in tracing activities and International Humanitarian Law (IHL) promotion and dissemination in cooperation with the ICRC and other National Societies, as well as in cooperation with the authorities in the field of IHL. An office at national headquarters coordinates IHL and dissemination work with officers at branch level.

9. HIV/AIDS prevention: In line with its mandate, the LRC works actively in HIV/AIDS prevention and alleviating the suffering of infected people. This activity is one of the society's priorities.

10. International cooperation: The LRC works to enhance the solidarity with the most vulnerable people worldwide and to promote humanitarian values and the Fundamental Principles.

Image 2. Libyan red Crescent team members.

2.4.5 Libyan Scout Movement

The Public Scout and Girl Guide Movement was founded in 1954, and became a member of the World Organization of the Scout Movement in 1958, and of the World Association of Girl Guides and Girl Scouts in 1981. It has been affiliated with the International Fellowship of Scouts and Girl Guides since 1994.

Due to its reported impartiality, Scouts and Guides were relatively untarnished during the Libyan geo-political conflict. They have continued to carry out local community humanitarian, environmental and health-related duties and activities.

2.4.6 Roaya Amateur Astronomers

Roaya Astronomy and Space Applications Foundation is a scientific foundation for space science & technologies, weather, and climate change in Libya. It was initially founded in 2015 as a group of astronomers, however, they have diversified to interest in weather-related hazards, climate change and reporting on emergencies and disasters in Libya.

In 2021, Roaya was announced as a Non-Governmental Foundation accredited by the Civil Society Commission. Roaya is a Libyan scientific foundation, that works to spread the culture of space science and technologies, and weather forecasts across its digital platforms. It aims to be the first reliable source of scientific information in its areas of interest in the MENA region. Roaya's areas of interest include:

- Astronomy
- Astrophotography
- Moon observations
- Physical Sciences
- Space technologies
- Weather and climate

2.4.7 LibAid

The Libyan Authority for Relief and Humanitarian Aid was founded in 2006 in Benghazi. The authority responds to many emergencies and disasters and operates on four strategic objectives:

I. Preserving the unity of actionable programming, implementation and monitoring of projects and humanitarian programs decided by the Libyan people to contribute to improve the social, health and humanitarian conditions for the disaster victims and the most vulnerable groups to ease suffering and to live with dignity.

II. Achieve the national interests of the Libyan people.

III. Work for the concerted efforts of official, civil and individual resources in a framework that ensures an effective contribution and the presence of an effective partnership.

IV. Work for documenting aid in Libya within the international strategy documents and reports.

SECTION

3 DISASTER RISK MANAGEMENT IN LIBYA

3.1 DISASTER RISK OVERVIEW

Disaster Risk Reduction (the policy or strategic objective of disaster risk management) and the subsequent application of the policies, strategies and disaster risk management, is minimal in all aspects of society in Libya.

There is a distinct awareness of hazards as people and communities are impacted due to varying degrees of exposure and vulnerability. The lack of coping capacity exacerbates the problems. Blend these issues with the ongoing impact of climate change and a situation develops, whereby the government, the economy, infrastructure, communities and citizens are all negatively impacted upon by various hazards.

3.2 NATURAL HAZARDS: CATEGORIES (SPECIFIC, GEO-SPECIFIC, ACUTE/ CHRONIC)

The following is a thematic analysis of hazards in Libya. This is a desk-based review utilising existing, open source literature. While there are a number of security and political hazards that have and could continue to impact the Libyan people, this report focuses on natural and climate related hazards.

3.2.1 Water Scarcity

There are three main water sources for the region:

- Nubian Sandstone Aquifer System.
- Northwestern Saharan Aquifer System.
- Murzuk-Djado Basin.

These sources are characterised by slow/ no recharge rates. The aquifers in particular are fossil water sources which were filled millennia ago.

Withdrawal of water greatly exceeds recharge rates:

- Withdrawal is estimated at 1 billion m^3.
- Renewable stock: 250 million m^3.

Irrigation in Libya is heavily dependant on the Man-Made River Project (MMRP) also know as the Great Man-Made River ("Great Man-Made River," 2022). It is the world's largest irrigation project. Unfortunately it is extremely vulnerable to disruption:

- World's largest irrigation project.
- Critical infrastructure providing 70% of freshwater.
- Complex and vulnerable as it is disrupted by conflict and the wells and pumps are dismantled for parts.

Reuters report that in 2019, 101 of 479 wells on the western pipeline system had been dismantled and kidnapping of water workers and looting of equipment was causing many problems. The UN have warned: *"If not addressed properly and immediately, these threats and damages could lead to the complete failure of the MMRP"* (Laessing and Elumami, 2019).

3.2.2 Water Energy Food Nexus

Conflict is identified as a primary driver for existing food insecurity in Libya. This has impacted road and port access to and within the country.

The World Economic Forum describes the complex relationship between water, energy, agriculture and ecosystem.

- Water supply in Libya involves multiple groups and regions.
- A coordinated approach to water management is needed for long term sustainability.(Keulertz and Mohtar, 2022)

3.2.3 Coastal Flood

Majority of Libyans live on the coast and are vulnerable to even slight sea-level rise (Climate Risk Profile, 2017).

Risks:

- Coastal erosion.
- Saltwater intrusion into groundwater.
- Damage and destruction of coastal infrastructure.

3.2.4 Extreme Heat

Mean annual temperature is projected to increase by 20^{oC} by 2050.
Risks:

- Increased droughts, sandstorms, desertification.
- Decreased agricultural productivity.
- Damage to crops.
- Heat health impacts.

3.2.5 Wildfires

Increasing temperatures and decreasing rain mean increased chance wildfires.
This is projected to be a highly regional problem with the highest risk in North East (El-Jabal El-Akhadar; El-Barasi and Saaed, 2013).

Risks:

- Habitat destruction.
- Species diversity loss.
- Soil degradation.
- Future development - Wildland urban interface.

3.2.6 Floods

Libya is projected to experience increased frequency of floods. Severe floods have previously occurred in 2013, 2015, 2017, 2019, 2020 (Alexander, 2020).

Risks:

- Injury, casulaties and fatalities
- Displacement
- Loss of livelihood
- Salinisation of ground water
- Damage to infrastructure and economy
- Human health including water-borne diseases

Image 3. Rescue efforts during the 2019 Ghat flooding.

3.2.7 Epidemics

Libya responded well to the COVID pandemic but the conflict hampered this.
Disruption and logistical constraints occurred due to conflict reduced access to facilities, hospitals, labs and local clinics. (Iwendi et al., n.d.).

Risks:

- Further disease outbreaks e.g. TB.
- Particularly at risk:
    - IDPs, people with disabilities, children, health care workers.
    - Further pressure on a stressed heath care system ("Humanitarian Overview 2023 - Libya," 2023).

3.2.8 Earthquake

Libya is at risk of earthquakes along the Mediterranean coast where the majority of the population is concentrated. A previous event in 1963 (mag 5.6, intensity 9) caused 300 fatalities with 13,000 displaced (Suwihli and Paradise, 2020).

Risks:

- Displacement.
- Human health.
- Disruption to infrastructure.
- Displacement.

3.2.9 External Factors

Libya is heavily dependant on imported food. The economic impact of Ukraine conflict has casued:

15% increase in wheat flour price.
32% increase in Monthly Expenditure Basket.
Global food chain supply issues are believed to be causing people to limit numbers of meals, reducing consumption ("Humanitarian Overview 2023 - Libya," 2023).

Some external actors may be working in Libya e.g., a BBC investigation suggested the Russia's Wagner Group were active in some regions (BBC, 2021).

3.3 RESILIENCE CAPACITY

3.3.1 Health Care

The Libyan health care system was stressed before conflict. Identified issues include:

1. Neglect.
2. Lack of development.
3. Failure to modernise.

There is a rising prevalence of mental health disorders among health care workers according to Elhadi et al., 2020. While a ceasefire is currently holding, continued attacks on hospitals and health care workers have been recorded and severe damage was caused to many health care facilities during the conflict (OHCR, n.d.). Examples include:

1. 2017: Ambulance and van stolen from al-Azizya clinic.
2. 2017: Sabratha University Hospital shelled.
3. 2017: Gunfight in the grounds of Jalaa Hospital, Benghazi.
4. 2018: Sabha Medical Centre damaged by shelling and gunfire.

3.3.2 Emergency Response

While the numbers of internally displaced people is decreasing, the rate of decrease is slowing. IDPs are now facing systemic problems on return including loss of housing, and a lack of public services. There is now a national policy framework for resolution of IDPs to aid their return and integration (Humanitarian Overview 2023 - Libya, 2023).

- 0.3 million people still in need:
- 24% women.
- 30% children.
- 15% with disabilities.
- Estimated that 1400 migrants died crossing the Central Mediterranean in 2022.IOM documented 441 migrant fatalities in the Central Mediterranean in the first quarter of 2023; the deadliest first quarter on record since 2017. [19]

3.3.3 Health

The Ministry of Health is now unified and Libyan Authorities have identified the top challenges for the years ahead:

1. Fragmentation of health sector institutions.
2. Weak governance.
3. Lack of accountability.
4. Extreme shortages of medical supplies and health staff.
5. Disrupted PHC network.
6. Severe funding shortages.

[19] https://www.iom.int/news/deadliest-quarter-migrants-central-mediterranean-2017)

3.4 POTENTIAL IMPACTS TO COMMUNITIES

The recent history of conflict across Libya has impacted the level of public services and infrastructure across the country. This has exacerbated the vulnerability of communities to the impacts of natural hazards. Continued conflict creates a complex environment for any climate adaptation and disaster risk management initiatives across prevention, preparedness, response and recovery.

Evidence shows that the most vulnerable elements within a community are the most effected by the realization of natural hazards. Any DRM initiatives will need to take into account the current conflict situation in Libya. As the pandemic demonstrated, when a hazard impacts, it is unlikely to change or halt activities.

There are a range of potential impacts to communites resulting from natural events. The table below provides some indications of what these impacts can be and maps these to a range of natural hazards.

3.5 LOCAL HAZARD IDENTIFICATION PROCESS

Due to the lack of current disaster risk and climate-related data, statistics and reporting on Libyan hazards and potential risks, it was deemed necessary to undertake a local hazard identification process. This involved IOM staff undergoing a briefing and training session in hazard data collection using the Kobo Collect form (Annex 1) followed by key informant interviews with identified stakeholders.

This research was conducted hastily and provided enumerators with an overview of technical knowledge pertaining to disaster risk and climate change. Results from 80 areas, a mix of municipalities and muhallas (sub-municipalities), produced a clear distinction in hazard types. This typology consists of acute and chronic hazards. A hazard is acute when it is extremely severe, short-term, and dangerous. A chronic hazard, on the other hand, is one that is present over a long period of time. Chronic hazards are always present, recurring, or habitual. Acute hazards appear suddenly, like a fallen electrical line, a break in a gas line, or a pressure buildup in a nuclear plant.

It is important to recognise that despite this typology, both acute and chronic hazards, can have devastating impacts on people, communities, livelihoods and therefore the government.

Hazard	No.	%
Water Scarcity	41	59%
Environmental (Pollution)	35	50%
Vehicle accidents	34	49%
Extreme heat	13	19%
Disease/ health outbreak	11	16%
Building collapse	9	13%
Fire- rural	8	11%
There are no Hazards reported in this municipality	6	9%
Flood	5	7%
Fire- major wildfire	3	4%
Landslide	3	4%
Fire- urban	2	3%
Severe Storm	2	3%
Earthquake	1	1%
Flood coastal	0	0%
Minor ground shift (tremor)	0	0%

Table 1. Identified hazards and quantities per surveyed area.

Some identified hazards can be cross-referenced with existing empirical data. According to the Global Facility for Disaster Reduction and Recovery (GFDRR), water scarcity as a hazard is classified as high for the whole country, with related droughts expected to occur on average every five years (GFDRR, 2021). Water scarcity blended with climate change leads to waterborne diseases, malnutrition, economic and political instability, and potential conflict. Libya's vulnerable socio-political status exacerbates this issue[20].

[20] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3076402/#:~:text=Water%20scarcity%20alone%2C%20however%2C%20is,concerning%20environmental%20and%20resource%20issues.

Acute	Chronic
Coastal flood	Environmental (Pollution)
Disease/ health outbreak	Extreme heat
Earthquake	Vehicle Accidents (Road Traffic Collisions)
Extreme heat	Water Scarcity
Flood	
Landslide	
Minor ground tremor	
Minor tremor	
Severe storm	
Urban fire	
Wildire	

Table 2. Acute and Chronic Hazards in Libya.

3.6 NATIONAL OVERVIEW OF HAZARDS, RISKS AND POTENTIAL IMPACTS TO COMMUNITIES[21]

#	CHRONIC / ACUTE	HAZARD	RISK	POTENTIAL IMPACT TO COMMUNITY
1	Chronic	Water Scarcity / Drought	The risk of water scarcity and drought is high in Libya. Reliance on non-renewable Aquifers, salination of existing water supplies through sea level rises, increasing global temperatures are exasperated by conflict and local frictions that have damaged water infrastructure across Libya.	The risk of water scarcity and drought is particularly high in southern parts of Libya. Access to clean water is a concern in the short to medium term along with the impact to agriculture, livestock and critical national infrastructure which may become unsustainable leading to food shortages and the loss of basic services.
2	Acute	Coastal Flood	The risk of coastal floods is high in Libya. Previous flooding includes 1995, 2013 and 2019.	Flooding can cause damage to housing, limit access to clean water and food, the provision of basic services and cause the displacement of communities.
3	Chronic	Extreme Heat	The risk of extreme heat is considered high in Libya.	The risk is chronic across Libya and particularly in the middle belt from Ghadarnes to Jalu. Extreme heat can pose a threat to life, destroy crops and livestock, create dangerous work conditions and prevent

[21] ThinkHazard, Libya, https://thinkhazard.org/en/report/145-libya/EQ. Accessed online 23rd March 2023.

				basic services from functioning.
4	Acute	Wildfires	The risk of wildfires is considered high in Libya.	The risk is particularly acute in Benghazi. These can cause severe damage to people and property. Elderly, children, pregnant women and those with existing cardiovascular or respiratory conditions are particularly vulnerable.
5	Acute	Earthquake	The risk of an earthquake is low in Libya (c.2%)	The risk is chronic across Libya but particularly in the coastal regions.

SECTION 4
RESILIENCE AND COPING CAPACITY

4. RESILIENCE AND COPING CAPACITY

4.1 OVERVIEW

Libyan people and society are undoubtedly resilient and resourceful. Unfortunately these attributes have been developed by negative experiences of conflict, climate change, migration and natural hazards. The destabilised governments and distinct lack of finance for disaster risk and emergency response has ensured coping capacity in all areas is low or perhaps even non-existant in rural or desert areas in the south.

4.2 IDENTIFICATION OF GOOD PRACTICES (Case Studies)

4.2.1 Libya Conflict 2011

Use of web-based community mapping was used in Libya to track where fighting was taking place and the movement of refugees fleeing the conflict.

4.2.2 2020 Pandemic Response

COVID-19 emphasised the need to address risk management and preventive actions at the national, local and community level through an integrated and structured approach.

Moblisation of civil society, municipal councils and other local actors (Red Crescent and Scouts) supported the distribution of testing kits, produced protective gear and conducted public awareness campaigns.

Working collaboratively with USAID, the WHO and other donors to provide vaccines under COVAX and support case management and monitoring was extremely positive and beneficial.

4.2.3 Tripoli 2019 Flooding[22]

Situation

Heavy rainfall in Tripoli in 2019 caused widespread flooding and the displacement of over 150 families. Floods damaged houses and affected basic services such as shelter, water, food and health.

[22] IOM, UN Agencies Respond Rapidly to Aid Flood Affected Population in Eastern Libya (2021), https://libya.iom.int/news/un-agencies-respond-rapidly-aid-flood-affected-population-eastern-libya. Accessed online 23rd March 2023.

Task

Initiate the Rapid Response Mechanism and deliver assistance within 72 hours of the disaster.

Action

The government worked closely with international government and non-governmental organisations including the IOM, UNFPA, UNICEF, WFP and LibAid under the Rapid Response Mechanism to deliver required assistance within 72 hours of the disaster. Efforts included the deliver of blankets and mattresses to displaced personnel. The provision of water, food and non-food items as well as the safeguarding of women and girls in flooded areas.

Image 4. Libyan Observer image from Tripoli Floods.

4.3 ALGERIA COMPARATIVE ANALYSIS

Algeria has reported detailed information on progress towards the achievement in Sendai Priority One, namely: a greater role dedicated to science and technology; upgrading of integrated national and local databases for disaster losses; strengthening the resources of the research centers and studies on risks, particularly earthquakes and floods; involvement of local universities in teaching, training and research on DRR; continuous improvement of the early warning and response mechanisms; preparation of the integration of curricula in the three levels of education and vocational training. Noteworthy is the government encouragement for the creation of start-ups focusing on DRR and climate change adaptation.

Algeria is updating its national strategy and launching the development of local strategies with assistance from the Global Facility for Disaster Risk Reduction[23] (GFDRR) and the United Nations Office for Disaster Risk Reduction of the Regional Office Arab States in Cairo (Egypt). Alongside the Algerian government, they are empowering local authorities by giving them new tasks and strengthening their resources (new law on local authorities), strengthening of the institutional base (new decree establishing delegations at the level of the wilaya (prefecture) and municipality) and also Intersectoral committees in various sectors.

Algeria has put in place a system for a better use of the important financial resources made available for disaster risk reduction actions with project maturity and accountability, dedicating special funds to the prevention, strengthening risk transfer mechanisms and encouraging more productive participation of the private sector in the DRR activity.

Algeria is strengthening the national crisis management unit at all levels. This capacity strengthening includes reinforcing the capacity for response, an obligation to organize simulation drills at all levels, reviewing of missions, upgrading of national capacities at different levels, updating continuously the response plans and their digitization, upgrading continuously the emergency stocks and continuously improving recovery and reconstruction plans. Algeria has updated the emergency plan (ORSEC)[24] at all levels of the administration (national, regional and local) and is published in Presidential decree.

Interestingly, Algeria has a full Urban Search and Rescue capability which is accredited by the UN OCHA International Search and Rescue Advisory Group, which deployed to the Turkiye earthquake.[25]

[23] https://www.gfdrr.org/en/supporting-operationalization-algerias-national-disaster-risk-management-strategy
[24] https://euro.dayfr.com/trends/317197.html
[25] https://thediplomaticinsight.com/algeria-deploys-civil-protection-team-to-turkiye/

SECTION 5
GAP ANALYSIS AND RECOMMENDATIONS

5. GAP ANALYSIS AND RECOMMENDATIONS

There is limited evidence to suggest that Libya has made progress against the Sendai Framework. As a result, there are a number of development opportunities available to Libya at a national, regional and community level. However, given the challenges the country faces, any attempts to address these gaps should be actioned with awareness of the broader context and where possible, hand in hand with existing and future, security and peacebuilding initiatives.

As the project developed and stakeholder engagement increased, it was identified that two possible strategic government entry points exist for developing disaster risk and climate change strategy and management.

The National Safety Authority, residing under the Ministry of Interior seem to be well-placed to undertake the accountability and responsibility for disaster risk management in Libya. Secondly, the National Meteorology Centre would be equally well placed for managing climate change adaptation. This is a similar practice globally as the portfolios of each domain are immense and can over-burden one agency.

5.1 RECOMMENDATIONS BASED ON SENDAI FRAMEWORK PRIORITIES

Priority 1: Understanding Disaster Risk

- There is a need to improve understanding of the interaction between the physical, socio-economic, natural and institutional elements that contribute to vulnerability and their links to the main disaster risk drivers.
- There is a need to understand the vulnerabilities caused by the conflict in Libya and ensure these are being identified and analyzed effectively. This may be ad hoc and inconsistent currently.
- There is a need to ensure that policy makers, academics and multinational / international organisations are working closely to share information about hazards, vulnerabilities and their associated risks.
- There is a need to understand risks and vulnerabilities in light of the possible opportunities that these hold for Libya at a national, regional and community level.
- There is a need to improve data collation and align this with UNFCCC and UNDRR collection initiatives. This should include guidance on the measurement of disaster risk losses and support in developing the infrastructure to obtain this data.

- A disaster risk and climate change 'culture', specifically amongst stakeholders, should be encouraged.

- A multi-level hazard identification and risk assessment should be implemented and driven by the National Safety Authority.

Priority 2: Strengthening Disaster Risk Governance to Manage Disaster

- There is a need to resurrect previous climate and DRM related institutions in Libya. There is a need to ensure these institutes are central to the development of policies and plans, that there are clear roles and responsibilities, and that there are coordination mechanisms to identify hazards, assess risks and develop a coordinated response.
- There is a need to develop a National Adaptation Plan for Libya which can outline how Libya will mitigate and adapt to the adverse impacts of climate change. The focus to date has been on Renewable Energies however this can be expanded to cover additional hazards such as coastal flooding, water scarcity / drought and extreme heat. This initiatve can be supported by the provision of guidance to public sector personnel so that they can organize, manage and monitor progress throughout the process of implementing these plans.
- There is a need to develop a Disaster Risk Management Framework for Libya which can outline how Libya will apply disaster risk reduction policies and strategies to prevent new disaster risk, reduce existing disaster risk and manage residual risk.
- There is a need to link national level strategies, policies and plans with sectoral, local and community level plans while providing guidance on the organization, management and monitoring requirements for effective implementation.
- As with REAOL and the related Law No. 426 Establishing the Renewable Energy Authority of Libya (REAOL) passed in 2007 and the more recent Libya Renewable Energy Strategic Plan 2013-2025, there is a need to integrate Climate Adaptation Plans and Disaster Risk Management Plans and policies into law.
- There is a need to develop risk governance frameworks and in particular accountability for the development of plans and polcies relating to National Adaptation Plans and Disaster Risk Management in Libya.This includes maintaining coordination and knowledge sharing between relevant stakeholders.
- There is a need to engage with and maintain engagement with, a broader group of government, local, community, private and other non-governmental stakeholders in the disaster risk management process.

- There is a need to develop a sustainable and continuous hazard identification, vulnerability analysis and risk assessment framework across government, local and with communities. This should also inform specific needs and requirements for women and vulnerable groups who may be more impacted by the impact of hazards.

- Multi-stakeholder strategic and operational working groups can be established to initiate, develop, implement and sustain various disaster risk and climate change governance, strategies and activities.

Priority 3: Investing in Disaster Risk Reduction for Resilience

- There is a need to develop a supportive financing environment that enables diasaster risk reduction policies, plans and infrastructure.
- There is a need to work closely with the private financial sector (banking and insurance) to make sure that these services are available at a local level and that barriers are removed that prevent vulnerable communities from accessing them.
- There is a need for continued work with national governments, international and multinational organisations to source funding to support disaster risk reduction initiatives.
- There is a need to develop a prioritization framework to ensure that resources are invested in the highest impact areas and that the delivery and impact of these investments is continually monitored. Outcomes should be fed back in to ensure lessons can be learned, continuous improvement in the process is maintained and that benefits are made available to potential investors to support new and further financing and investement of these investments.

Priority 4: Enhancing Disaster Preparedness for Effective Response and to "Build Back Better" in Recovery, Rehabilitation and Reconstruction

- There is a need to regularly train and exercise relevant stakeholders and services inline with nationally maintained Distaster Management Plans.
- There is a need to develop capacity with relevant stakeholders and services through a benchmarking of existing capabilities and gap analysis that can support the targeting of training and capacity building.
- There is a need to separate response and recovery. 'Build Back Better' promotes the principle that recovery plans should be developed which prevent the creation of risks in any infrastructure and housing reconstruction efforts. This extends to economic and strengthening efforts once a hazard has occurred.

A multi-level disaster risk and climate change framework is required, based on official legislative arrangements. These may be separated for each responsible agency, the National Safety Authority and the National Meterorology Centre. This must be a starting point for a simultaneous top-down and bottom-up approach. Climate change and disasters know no boundaries or politics therefore a One-Libya approach is encouraged to successfully mitigate and manage existing and new emergencies and disasters

Priority 5: Linking Disaster Risk with Climate Change, Conflict and Migration

The main objective of the CCM Nexus and Water Scarcity Study[26] was to contribute to developing public policies that address issues related to conflict, migration, environment and climate change in Libya, Sudan and the MENA region. It aimed to equip critical actors and institutions with the evidence and analysis necessary to implement public policies and design programmes considering the CCM Nexus.

This same approach can be utilised for integrating disaster risk reduction and management. This top-down a method requires combination with a bottom-up approach where citizen and community needs are factored-in.

DROUGHT

"We left because of the drought and bankruptcy that resulted because we depend on agriculture to finance our daily lives."

WATER SCARCITY

"I moved due to the difficult economic situation, lack of employment, and inability to work in agriculture because of a lack of water and resources."

TEMPERATURE VARIABILITY

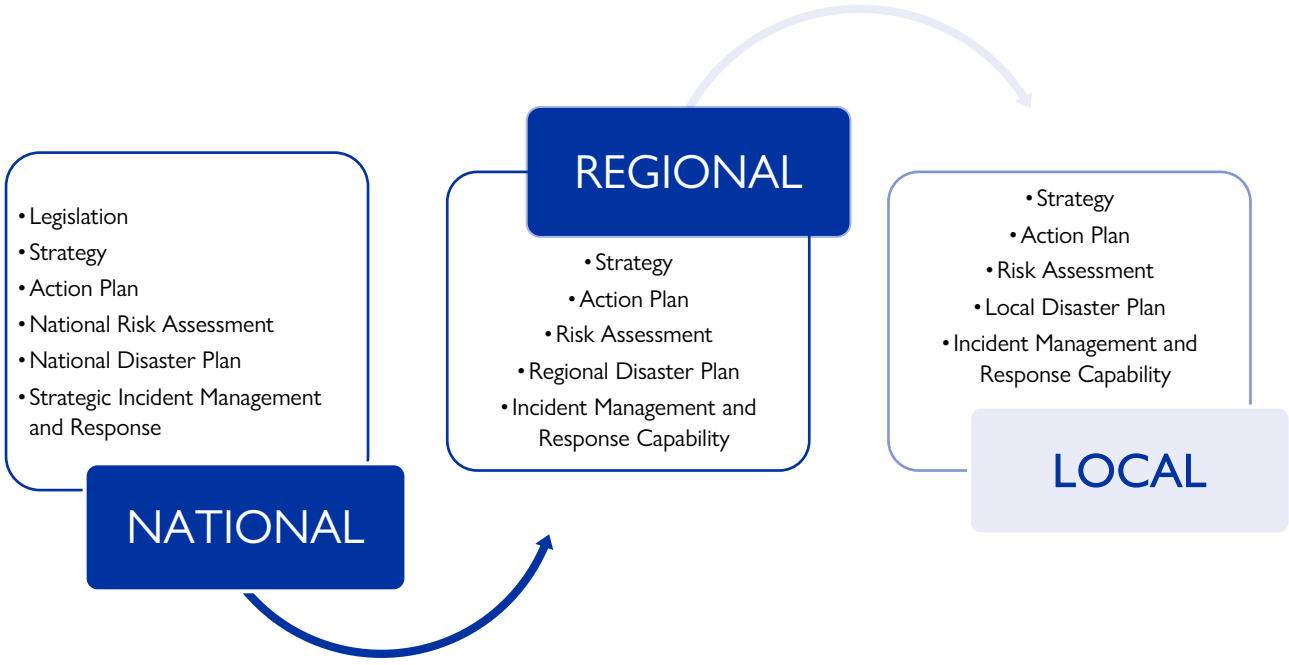
"There is no state support for farmers – no subsidised fertilizer, no animal feed – and we were exposed to a severe cold wave that affected our crops, and we did not receive any aid to protect them."

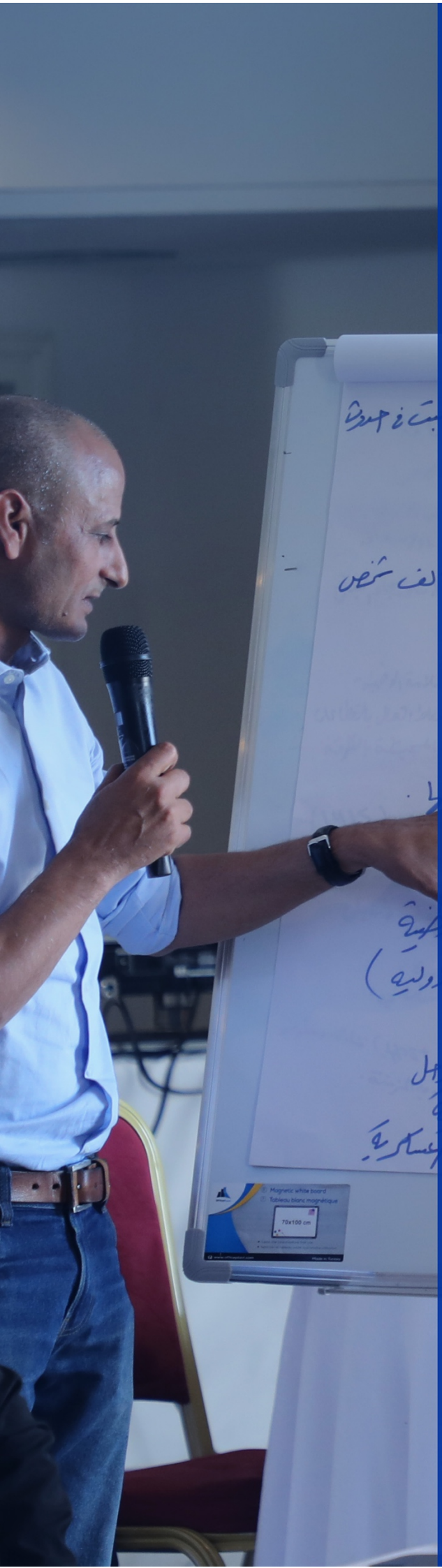
Figure 5. Comments from consulted citizens in CCM Report.

[26] McFEE, E., 2023. Climate Change, Conflict and Migration (CCM) Nexus and Water Scarcity Study. IOM Development Report.

A multi-level disaster risk and climate change framework is required, based on official legislative arrangements. These may be separated for each responsible agency, the NSA and the NMC. This must be a starting point for a simultaneous top-down and bottom-up approach. Climate change and disasters know no boundaries or politics therefore it is a One-Libya approach that is required to successfully mitigate and manage existing and new emergencies and disasters.

EXAMPLE DISASTER RISK FRAMEWORK





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SECTION 7

ANNEXES

ANNEX 1

IOM LIBYA- HAZARD AND RISK DATA COLLECTION

Enumerator Name

Contact Number

Date of Assessment

yyyy-mm-dd

Respondent Details

Respondent Details

Name

Position

Organisation

Municipality of Assessment

Please add notes relating to Fire- urban
Frequency, example incidents, issues, seasonal impacts, community impacts, needs

---

Please add notes relating to Flood
Frequency, example incidents, issues, seasonal impacts, community impacts, needs

---

Please add notes relating to Flood coastal
Frequency, example incidents, issues, seasonal impacts, community impacts, needs

---

Please add notes relating to Landslide
Frequency, example incidents, issues, seasonal impacts, community impacts, needs

---

Please add notes relating to Minor ground shift (tremor)
Frequency, example incidents, issues, seasonal impacts, community impacts, needs

---

Please add notes relating to Severe Storm
Frequency, example incidents, issues, seasonal impacts, community impacts, needs

---

Please add notes relating to Vehicle accidents
Frequency, example incidents, issues, seasonal impacts, community impacts, needs

---

Please add notes relating to Water Scarcity
Frequency, example incidents, issues, seasonal impacts, community impacts, needs

---

Hazard Details

1

If there are multiple Hazards, please add a new group for the next hazard

---

Hazard Types in this Muncipality

- [ ] Building collapse
- [ ] Disease/ health outbreak
- [ ] Earthquake
- [ ] Environmental (Pollution)
- [ ] Extreme heat
- [ ] Fire- major wildfire
- [ ] Fire- rural
- [ ] Fire- urban
- [ ] Flood
- [ ] Flood coastal
- [ ] Landslide
- [ ] Minor ground shift (tremor)
- [ ] Severe Storm
- [ ] Vehicle accidents
- [ ] Water Scarcity
- [ ] There are no Hazards reported in this municipality

Please add notes relating to building Collapse

Frequency, example incidents, issues, seasonal impacts, community impacts, needs

---

Please add notes relating to Disease/ health outbreak

Frequency, example incidents, issues, seasonal impacts, community impacts, needs

---

Please add notes relating to Earthquake

Frequency, example incidents, issues, seasonal impacts, community impacts, needs

---

Please add notes relating to Environmental (Pollution)

Frequency, example incidents, issues, seasonal impacts, community impacts, needs

---

Please add notes relating to Extreme heat

Frequency, example incidents, issues, seasonal impacts, community impacts, needs

---

Please add notes relating to Fire- major wildfire

Frequency, example incidents, issues, seasonal impacts, community impacts, needs

---

Please add notes relating to Fire- rural

Frequency, example incidents, issues, seasonal impacts, community impacts, needs

---

GPS Coordinates (If unavailable please locate hazard and pin on Google Maps/ take a note)

latitude (x.y °)

longitude (x.y °)

altitude (m)

accuracy (m)

Address

Nearby Landmarks

Point and shoot! Use the camera to take a photo

Click here to upload file. (< 10MB)

Media or Social media links to news about hazards in this Municipality

Local Hazards: Please note any local Hazards relating to the natural environment, critical infrastructure, transport networks, housing situation, private companies or other

ANNEX 2: GNU Decree: Reorganisation of National Safety Authority (Translated)

Decree of the Council of Ministers of the Government of National Unity (GNU)
No. 449 of 2022
Reorganizing the National Safety Authority (NSA)

The Council of Ministers,
Having taken cognizance of:

- **the Constitutional Declaration dated August 3, 2011 and its amendments**
- **the Libyan Political Agreement signed on August, 3 2011 and its amendments**
- **the results of the Libyan Political Dialogue Forum held on November 9, 2020**
- **Law No. 11 of 1971 on Civil Defense**
- **Law No. 12 of 2010 on Labor Relations and its Executive Regulations**
- **Law No. 5 of 2018 on the Police Force, as amended by Law No. 6 of 2019**
- **the resolution of the House of Representatives in its General Session held on March 10, 2021 in the city of Sirte granting confidence to the Government of National Unity**
- **The General People's Committee Decree No. 530 of 2010 reorganizing the National Safety Authority (NSA)**
- **GNU's Council of Ministers Decree No. 170 of 2022 on the Transfer of NSA's affiliation**
- **Decree of the Minister of State for Prime Minister and Council of Ministers' Affairs No. 7308 dated March 13, 2022**
- **the letter of the Secretary of the Council of Ministers Affairs No. 16473 dated October 28, 2021.**
- **the resolution of the Council of Ministers at its second ordinary session of 2021 on the delegation of some competences to its President,**

has Decreed,

Article 1
The National Safety Authority shall be reorganized in accordance with the provisions hereof.

Article 2
The National Safety Authority shall be a public legal entity with financial autonomy affiliated to the Presidency of the Council of Ministers.

Article 3
The Authority's headquarters shall be in the city of Tripoli. Authority branches shall be established in the rest of the regions under a decree of the President of the Authority. The Authority may also have delegates and operations rooms at the locations and sites proposed by the President of the Authority.

Article 4
The Authority shall implement Law No. 11 of 1971 on Civil Defense and its supplementing laws. In doing so, the Authority shall hold competence to adopt the necessary measures and procedures to respond to crisis and disasters such as earthquakes, floods, fires, building collapses, environmental pollution and any disasters or emergent risks that might cause harm to persons or property, in particular the following:

1) Adopting preventative measures to protect the population, resources, and installations at times of war and peace.
2) Fighting against environmental pollution in coordination with the competent authorities.
3) Carrying out regular and unannounced inspection of all activities whose nature requires ensuring commitment to providing various means of safety.
4) Ensuring the transportation, storage and destruction of explosives and bombs in coordination with the competent authorities and in compliance with the legislation in force.

5) Carrying out land and sea rescue operations during accidents such as drowning, collision of motor vehicles and collapse of buildings whose nature requires such operations in coordination with the competent authorities.
6) Spreading and improving awareness of civil defense among citizens in coordination with the competent authorities.
7) Participating in the preparation of international conventions in the field of safety in coordination with the competent authorities.

The Authority may undertake the following to achieve its objectives:

1- Acquiring real estate, equipment, devices and whatever materials required by the nature of its work, including aircrafts, trucks, boats, motor vehicles and other equipment required for the purpose.
2- Coordinating with the competent authorities to establish a rapid communication network linking hospitals, vital areas, and strategic facilities.
3- Preparing and qualifying specialized human capacities scientifically and professionally and supplying the material and moral means needed by the Authority to perform its duties.
4- Importing equipment, devices and materials needed by the nature of the Authority's work.
5- Concluding contracts enabling the Authority to achieve its objectives in compliance with the legislation in force.

Article 5

The Authority shall have a council called "the Supreme Council for National Safety", which shall set policies, approve strategic plans related to civil defense, and ensure the regular monitoring and supervision of the Authority's work. The composition of the Council shall be as follows:

1. Prime Minister	Chairman
2. Minister of the interior	Member
3. Minister of Finance	Member
4. Minister of Agriculture, Livestock and Marine Resources	Member
5. Minister of Planning	Member
6. Minister of Industry	Member
7. Minister of Economy and Trade	Member
8. Minister of Health	Member
9. Minister of Oil and Gas.	Member
10. Minister of Water Resources	Member
11. Ministry of Transport	Member
12. Minister of Local Government	Member
13. Minister of Environment	Member
14. Head of the National Safety Authority	Member
15. Undersecretary of Defense	Member
16. Chairman of the Board of Directors of the General Electricity Company	Member
17. Vice-President of the National Safety Authority	Rapporteur

The Council shall hold its meetings on a regular basis at least once each six months and whenever deemed necessary. The Council may also seek the assistance of whoever it deems necessary. The Council shall hold competence to form national safety committees in the regions and specify their competences.

Article 6

The Authority shall have the right to utilize, whenever necessary and on a temporary basis, all equipment, gear, movable and immovable assets and other capabilities of any public body, and under agreement with any individual or private body, and use them when incidents occur requiring such to serve the purposes of

national safety. The Authority may also request any authority, department, entity, or any public or private body to provide the human or material assistance required to serve its purposes and achieve its objectives. This should be done through the plans and programs already drawn up by the Supreme Council for National Safety.

Article 7

The Authority shall have a President and a Vice President appointed pursuant to a decree of the Council of Ministers.

Article 8

The Authority's President shall supervise the management and administration of the Authority's affairs and the organization of its work. In particular, he may:

1. Ensure the daily supervision of the functioning of the Authority.
2. Propose the administrative, financial and technical systems deemed necessary for the organization and management of the Authority's work to ensure the achievement of its goals.
3. Form a Personnel Committee and a committee to settle the professional situation of police force and other Authority's technical committees; and approve their decisions and recommendations.
4. Represent the Authority before the judiciary and third parties.
5. Approve the minimum promotion decisions for Police members that are under the supervision of the Authority in compliance with the legislation in force.
6. Exercise all the competences and powers entrusted to the Authority's President as provided for in the legislation in force.
7. Issue directives and take the measures that enable the Authority to carry out its activities.
8. Prepare the draft public budget and the final account and submit them for approval.

Article (9)

The Vice President of the Authority shall directly assume the following functions:

1. Assuming the duties of the President of the Authority in the event of his absence, vacancy of his position, or the presence of an impediment preventing him from performing his duties.
2. Attending conferences, seminars and meetings that the President of the Authority assigns him to attend on behalf of him.
3. Proposing amendments to laws, regulations and decisions required by the administrative body and submitting them for approval.
4. Preparing regular reports on the missions assigned to him by the President of the Authority.
5. Any other functions assigned to him by the President of the Authority in compliance with the legislation in force.

Article (10)

The Authority's financial resources shall consist of the following:

1. Amounts allocated thereto in the State's General Budget.
2. Unconditional gifts and donations
3. Any other resources legally collected thereby.

Article (11)

The Authority's fiscal year shall commence with the start of the State's fiscal year and end at the end thereof. One or more accounts shall be opened for the Authority in public banks in Libya in accordance with the legislation in force.

Article (12)

Provisions of Law No. 5 of 2018 on Police Force as amended by Law No. 6 of 2019 and Law No. 12 of 2010 on Labor Relations shall apply, insofar as no provision is made herein.

Article (13)

The Authority shall have administrative, financial and technical regulations, as required by the nature of work, which shall be approved by the Council of Ministers upon a proposal from the Authority's president.

Article (14)

The Authority's organizational structure shall be issued under a decree from the Presidency of the Council of Ministers upon a proposal from the Authority's president.