

Regional progress in disaster risk reduction

2.



The Sendai Framework (2015–2030) renewed the commitments of the Hyogo Framework for Action (HFA, 2005–2014), the global blueprint for DRR efforts, while capturing new hazards and growing complexities through action priorities and linked targets. The Sendai Framework attempts to bring about a paradigm shift, from reactive and silo-based approaches to managing disaster to proactive resilience. Environmental protection and climate change are recognized as necessary in understanding risks and risk drivers. In addition, the 17 SDGs, which aim to strengthen governance mechanisms to reduce the risks of poverty, food insecurity and social disparity, among other objectives, are recognized as a tool for achieving such societal resilience. The Sendai Framework also underlines the importance of local urban resilience, especially in the Arab region; with 56 per cent¹⁴⁵ of people living in cities, it is one of the most urbanized regions in the world.

Monitoring progress in DRR is crucial to strengthen the resilience of the region. Analysis of progress against global frameworks helps identify the current baseline, vertical and horizontal policy integration practices, coordination mechanisms and the reporting of challenges in order to identify specific themes for future focus. Chapter 2 is structured into three main parts: the first provides an overview of the shift from HFA to the Sendai Framework, and synergies among the various global agendas; the second reviews progress in implementing the Sendai Framework and related SDGs; and the third focuses on sectoral and local progress in mainstreaming DRM considerations in development planning.

145 UN-Habitat, 2016a.

A. An overview of the shift in the post-2015 development agenda

The year 2015 was instrumental in bringing about a shift in the global development agenda, with three new agreements, namely, the SDGs,¹⁴⁶ the Paris Agreement on Climate Change¹⁴⁷ and the Sendai Framework.¹⁴⁸ The Addis Ababa Action Agenda (AAAA)¹⁴⁹ and the New Urban Agenda (NUA)¹⁵⁰ helped further define the road map to achieving the global agendas. The human security approach (HSA)^{151 152} is essential to help ensure all elements of resilience building are integrated in a coherent manner. The Sendai Framework recognizes the importance of participatory and inclusive DRR and renews calls for multi-stakeholder resilience platforms for coordinated actions, long-term investment and community-based local action, preventing and mitigating disaster risks and building resilience. The Sendai Framework further emphasizes the need for multisectoral approaches to the social, physical, environmental and economic factors contributing to vulnerability. It calls for a whole-of-society approach that addresses the special needs of women, children, the elderly and persons with disability to ensure no one is left behind and to endeavour to reach the furthest behind first.

A milestone is the focus on measurable targets and outputs, with a defined timeline for the seven global targets and a set of 38 indicators to measure progress in achieving the targets for implementing the Sendai Framework. Common thematic areas through SDGs and DRR are shown in table 2.1.

Table 2.1 Common thematic Sendai Framework areas through SDGs and DRR

SDG	Sendai Framework focus	DRR factors
SDG 1: zero poverty	Eradication of poverty	Poverty is a major risk driver for disasters
SDG 11: sustainable cities	Urban resilience	Rapid urbanization is a risk factor
SDG 13: climate action	Addressing climate change	Climate change is one of the risk drivers

The 24 indicators of the Sendai Framework's first five targets overlap with 11 indicators under SDGs 1, 11 and 13 (table 2.2).

Table 2.2 Common indicators between Sendai Framework and SDGs

SDG indicator	Sendai Framework indicator
SDG 1: End poverty in all its forms everywhere	
1.5.1 Number of deaths, missing persons and directly affected persons attributed to disasters per 100 000 population	A1, B1
1.5.2 Direct economic loss attributed to disasters in relation to global GDP	C1
1.5.3 Number of countries that adopt and implement national DRR strategies in line with the Sendai Framework	E1
1.5.4 Proportion of local governments that adopt and implement local DRR strategies in line with national DRR strategies	E2

146 United Nations, Department of Economic and Social Affairs, 2015.

147 United Nations Framework Convention on Climate Change, 2015.

148 United Nations, 2015.

149 A/RES/69/313.

150 UN-Habitat, 2016b.

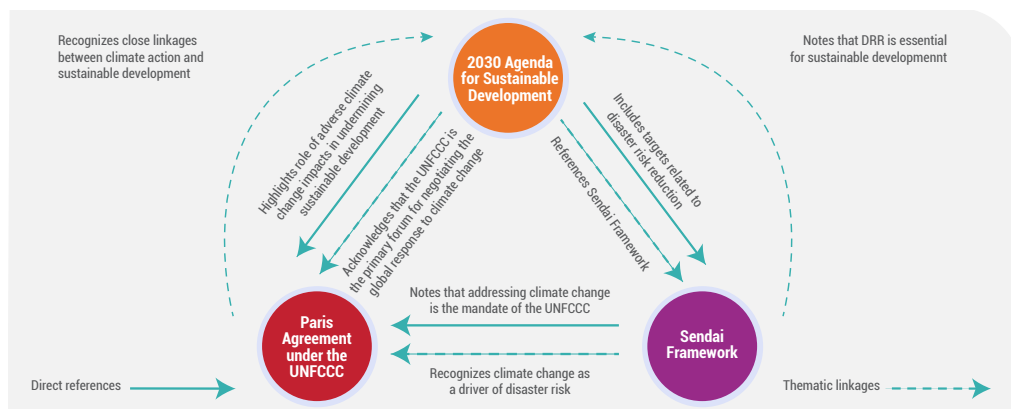
151 As noted in United Nations General Assembly resolution 66/290, "human security is an approach to assist Member States in identifying and addressing widespread and cross-cutting challenges to the survival, livelihood and dignity of their people". It calls for "people-centred, comprehensive, context-specific and prevention-oriented responses that strengthen the protection and empowerment of all people". See <https://www.un.org/humansecurity/what-is-human-security/>

152 United Nations Trust Fund for Human Security, 2009.

SDG indicator	Sendai Framework indicator
SDG 11: Make cities and human settlements inclusive, safe, resilient and sustainable	
11.5.1 Number of deaths, missing persons and directly affected persons attributed to disasters per 100 000 population	A1, B1
11.5.2 Direct economic loss in relation to global GDP, damage to critical infrastructure and number of disruptions to basic services attributed to disasters	C1, D1, D5
11.b.1 Number of countries that adopt and implement national DRR strategies in line with the Sendai Framework	E1
11.b.2 Proportion of local governments that adopt and implement local DRR strategies in line with national DRR strategies	E2
SDG 13: Take urgent action to combat climate change and its impacts	
13.1.1 Number of deaths, missing persons and directly affected persons attributed to disasters per 100 000 population	A1, B1
13.1.2 Number of countries that adopt and implement national DRR strategies in line with the Sendai Framework	E1
13.1.3 Proportion of local governments that adopt and implement local DRR strategies in line with national DRR strategies	E2

The Sendai Framework seeks a substantial reduction in disaster risk and losses in lives, livelihoods and health, and in the economic, physical, social, cultural and environmental assets of people, businesses, communities and countries. The SDGs aim to mobilize efforts to end all forms of poverty, fight inequality, tackle climate change, and ensure that no one is left behind while endeavouring to reach the furthest behind first. Both the Sendai Framework and SDGs stress the importance of creating resilience in the natural and built environment to mitigate the risks occurring due to climate change. The Paris Agreement advances this through its global call for mitigating climate-related risks. It brings together national and regional parties on a common platform through nationally determined contributions (NDCs) by each country. It prescribes that parties shall communicate their NDCs every five years and provide information necessary for clarity and transparency. Further, climate finance is often contingent on alignment and linkage to NDC targets.¹⁵³ Hence, the Sendai Framework, SDGs and Paris Agreement push countries and governments to document national progress towards achieving the goals and targets. Figure 2.1 traces the common interlinkages between the three agendas.

Figure 2.1 Synergies in the Sendai Framework, SDGs and Paris Agreement



Source: NAP Global Network, 2019.

153 In 2015, several Arab countries submitted NDCs but the targets set were not aligned to the required temperature decrease. Currently, the Sudan, Somalia, Jordan, Morocco, Tunisia, Iraq and Lebanon are developing enhanced NDCs. There is an adaptation component in the ongoing analysis for water, agriculture, etc., but it is not possible to provide targets as for mitigation. The analysis addresses adaptation vulnerability and adaptation resilience, especially in water and food security, and coastal resilience. In terms of alignment to the Sendai/SDGs, the analysis is examining coastal vulnerability, climate risk, drought and floods. See UNDP ongoing analysis of NDCs, 2021.

The AAAA provides the foundation for implementing the global sustainable development agenda, with a strong focus on financing as a linchpin for development. The agenda prioritizes domestic resource mobilization with a string of measures aimed at widening the revenue base. To achieve this, it emphasizes a technology facilitation mechanism and a global infrastructure forum to boost cooperation among stakeholders. The AAAA is a proponent of financial measures favouring the poor and vulnerable, such as social protection schemes and access to basic health services, and promoting employment generation through encouraging micro, small and medium-sized enterprises (MSMEs). It also calls for commitments on addressing climate change to be reiterated.

The New Urban Agenda (NUA)¹⁵⁴ laid down policies and measures to achieve sustainable urban development, while also taking account of climate challenges and the priorities of the Sendai Framework. The NUA seeks consideration of multiscale spatial planning, from regional and national levels to the local level. It calls for the priorities to be implemented through programmes defined by line ministries, and local management of urban spatial growth, and emphasizes the need for regulatory mechanisms for inclusive and transparent financial systems.

In fragile and conflict settings, the Agenda for Humanity is an important consideration in developmental planning. The agenda¹⁵⁵ focuses on protecting internally displaced people, and furthering their interests along with those of the host communities. It calls for a proactive approach in eliminating underlying risk drivers, such as poverty, and stresses the need for investment in peacebuilding and the promotion of human rights. The human security approach helps identify and address cross-cutting issues related to people's survival and dignity. Human security is grounded in the fundamental recognition of the differing capacities, needs and circumstances of people, civil society and governments. It is based on the premise that all individuals, particularly those who are vulnerable, are entitled to freedom from fear and want, with equal opportunities to enjoy all their rights and fully develop their potential.¹⁵⁶ Freedom from fear and want, and living in dignity, is extended to include freedom from vulnerability and risk, thereby aiming for resilience and sustainability. It strengthens the local capacity to build resilience and promotes solutions that enhance social cohesion and advance respect for human rights and dignity.

Taken together, these frameworks make for a complete resilience agenda requiring actions that span development, humanitarian, climate and DRR. Such coherence strengthens resilience frameworks for multi-hazard assessments, and aims to develop dynamic, preventive and adaptive urban governance systems at regional, national and local levels. Analysing Arab regional progress through a coherent lens of the combined global frameworks provides an opportunity to identify priority areas.¹⁵⁷

To this end, at the regional level, the Arab Strategy for Disaster Risk Reduction (ASDRR) 2030¹⁵⁸ was developed to direct efforts to coherently implement the Sendai Framework with the other global post-2015 frameworks. It takes account of the SDGs, with specific emphasis on SDG 11 on sustainable cities. Further, the ASDRR also focuses on mitigating food insecurity, water access constraints and the ongoing conflict in the region. It seeks resilience-building progress through securing freedom from hunger, water scarcity, unsafe habits, and fear of conflict.

B. Progress in the region in implementing disaster risk reduction frameworks

This section provides a regional overview of HFA implementation and of the preparations to reduce the risks outlined in the Sendai Framework.

1. Progress at regional level in implementing the Hyogo Framework of Action

The HFA pressed national and local governments to recognize the need to integrate DRR considerations within development activities. It called for a shift from response to risk prevention and mitigation, and encouraged countries

154 UN-Habitat, 2016b.

155 United Nations, General Assembly, 2016b.

156 United Nations, General Assembly, 2005.

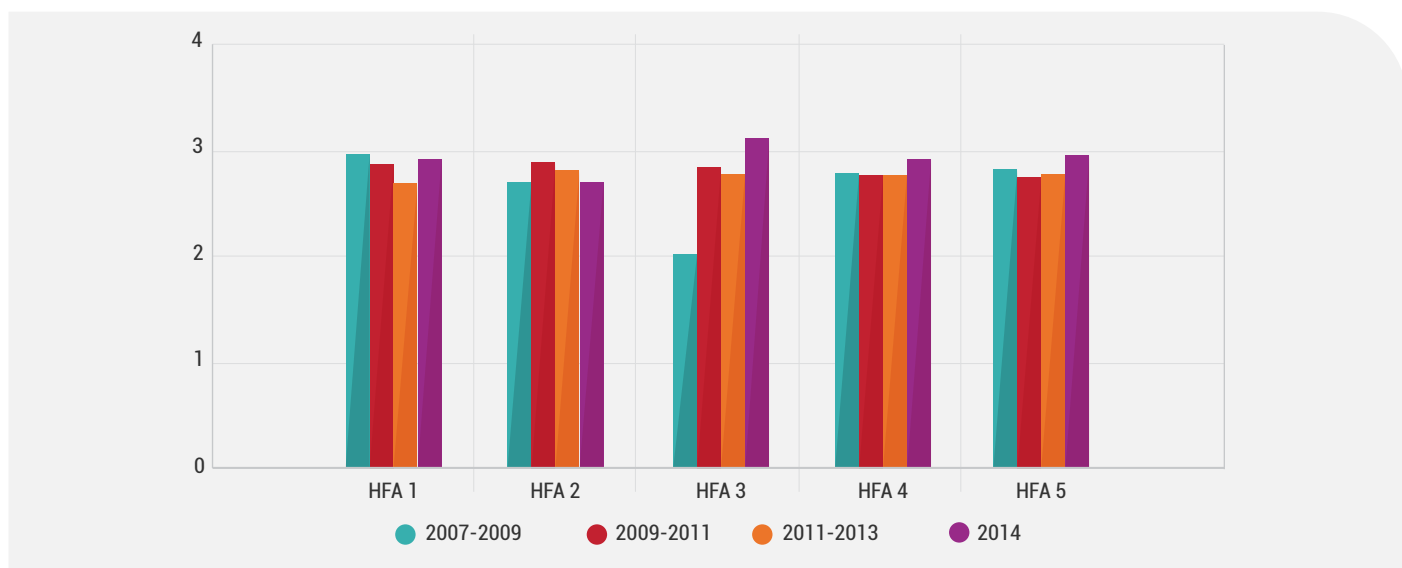
157 The Sharm el Sheikh Declaration stresses the need for greater coherence between the internationally negotiated processes of the post-2015 agendas.

158 UNDRR, 2018a.

to have strategic goal statements echoing the same priorities.¹⁵⁹ As a result, national platforms and committees for DRR were established in 13 Arab countries, namely Algeria, Bahrain, Comoros, Djibouti, Egypt, Jordan, Lebanon, Morocco, Qatar, the State of Palestine, the Syrian Arab Republic, Tunisia and the United Arab Emirates. Common challenges identified include the allocation of resources to support risk reduction activities vis-à-vis poverty alleviation programmes, in addition to the need for decentralized data collection, time-bound action plans to implement DRR strategies and tailored legislation to account for local capacities and needs.¹⁶⁰

Regarding progress in implementing the HFA,¹⁶¹ the average score for the Arab States in all priorities was less than three (figure 2.2).¹⁶² Under priority one, the main observation was the need to enhance understanding of the interaction between the physical, economic, social, natural and institutional factors contributing to risk drivers, along with a better understanding of the relationship between climate change, poverty reduction, development and disaster risk. With priority two, the need to strengthen linkages between research and decision-making processes was identified. Review of progress under priority three stressed the importance of building two-way risk communication frameworks, and under priority four, the need to invest in reducing existing risks and to form partnerships with the private sector to promote DRR insurance and financing services. The importance of community participation in disaster planning was highlighted under the review of priority five, including post-disaster needs assessment, with a focus on gender-disaggregated vulnerability and capacity assessments.¹⁶³ The review findings underline the importance of delineating response and recovery plans to better prevent re-emergence of risk in post-disaster rehabilitation processes.

Figure 2.2 Progress of Hyogo Framework for Action priorities in the Arab region



Source: UNDRR, 2015.

2. Arab state participation in the Sendai Monitoring System

The online Sendai Framework Monitor (SFM) is a state-of-the-art system built to support the new indicators, extended hazards types and metadata mechanisms that were recommended by the Open-ended Intergovernmental Expert

¹⁵⁹ The 2013 Aqaba Declaration on DRR recognized the importance of local government/cities in creating resilience in the highly urbanized Arab region. The Sharm el Sheikh Declaration of 2014 highlighted the significance of disaster loss databases to measure progress in achieving DRR targets. In 2017, the Doha Declaration laid the foundation for monitoring progress in implementing the Sendai Framework. In 2017, during the Third Arab Preparatory Conference on DRR, the Arab Youth in Resilience campaign was launched to implement Sendai targets. Adoption of the ASDRR in 2018 marked a shift in the development agenda, and recognized the Sendai Framework as a means for sustainable development. The Tunis Declaration of 2018 accelerated the process of implementing the Sendai Framework in the African and Arab region through the adoption of a reporting and monitoring framework.

¹⁶⁰ UNDRR, 2015.

¹⁶¹ Ibid.

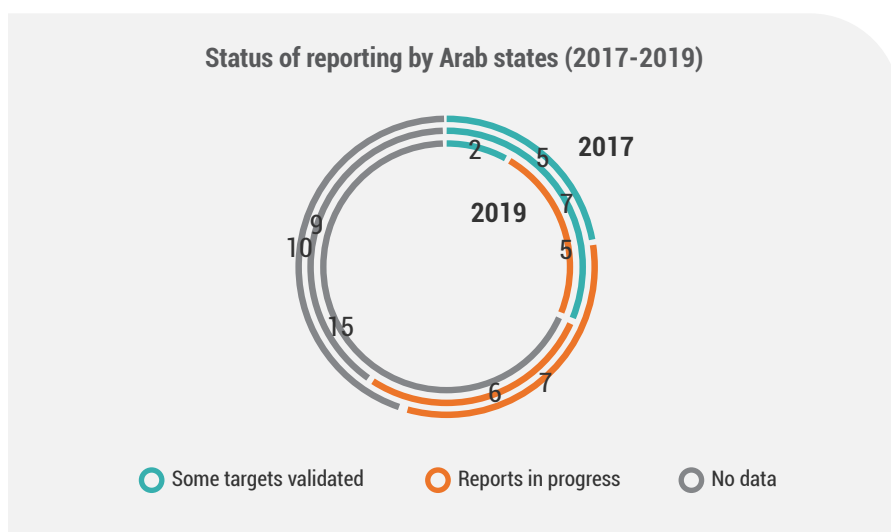
¹⁶² HFA indicator score 3 indicates "institutional commitment with no comprehensive or substantial achievements".

¹⁶³ The five HFA priorities for action are: 1. Ensure DRR is a national and local priority with a strong institutional basis for implementation; 2. Identify, assess and monitor disaster risks and enhance early warning; 3. Use knowledge, innovation and education to build a culture of safety and resilience at all levels; 4. Reduce the underlying risk factors; 5. Strengthen disaster preparedness for effective response at all levels.

Working Group on indicators and terminology relating to DRR (OIEWG), and adopted by the United Nations General Assembly.¹⁶⁴ The SFM is an administrative tool that supports national governments to report progress towards the seven global targets of the Sendai Framework and their 38 indicators. This improved system enables detailed disaster loss and damage data to be collected at all scales (temporal and spatial) using common methodologies. It also allows the capture of disaster information that is location and time stamped, contributing to a strong analysis of disaster loss and damage.

Figure 2.3 shows regional reporting levels of Sendai targets, with the 2017, 2018 and 2019 data in the outer, middle and inner rims, respectively. There is a lack of progress in some targets validated, with 5, 7 and 2 countries reporting on this over the three years, respectively. There is progress in data availability, with 15, 9 and 10 countries reporting no data in 2017, 2018 and 2019. Training workshops were held in 2018 and 2019, with reporting on any year taking place the following year. This explains the apparent reversal in progress due to the COVID-19 crisis, which shows the wider effect of this crisis, and other potential pandemics, on government effectiveness.

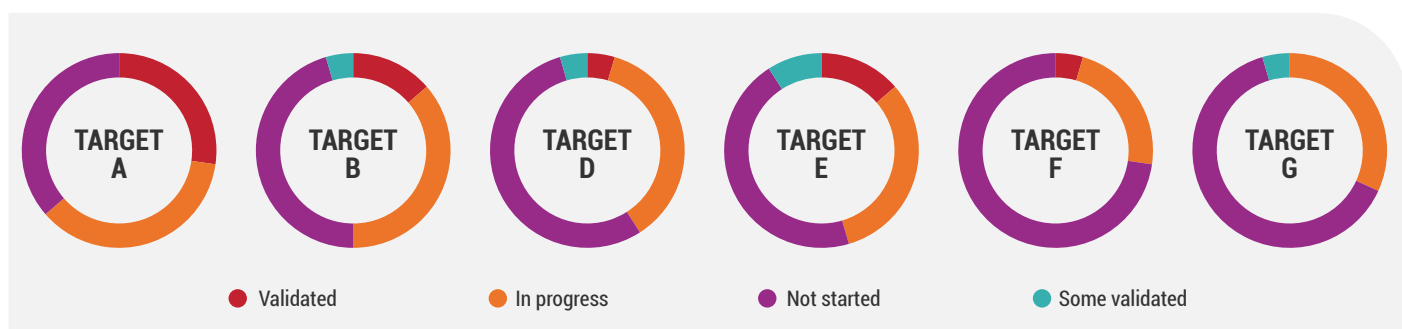
Figure 2.3 Status of reporting by Arab States, 2017–2019



Source: Sendai Framework Monitor, 2018 (accessed on 10 April 2020)

Regional progress on global targets as reported by the SFM for 2018 shows that 8, 10, 12, 10, 16 and 14 countries have not yet started reporting for targets A (mortality), B (people affected), D (critical infrastructure and services), E (DRR strategies), F (international cooperation) and G (early warning and risk information), respectively (figure 2.4). However, 8, 8, 8, 7, 5 and 7 countries report progress for targets A, B, D, E, F and G, respectively. No country reported on target C (economic loss).

Figure 2.4 Status of reporting per target by the Arab States



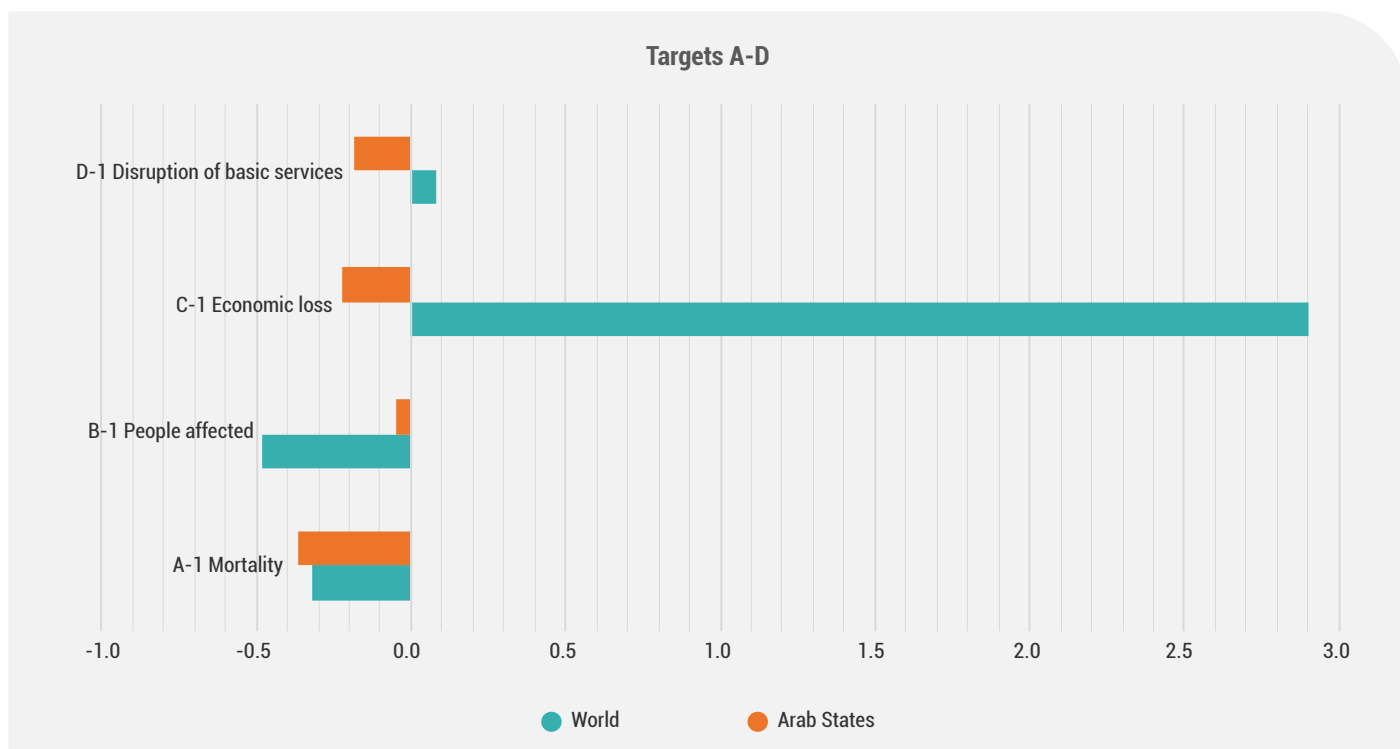
Source: Sendai Framework Monitor, 2018. Available at <https://sendaimonitor.undrr.org/> (accessed on 10 April 2020).

164 United Nations, General Assembly, 2016a.

3. Targets A to D: are losses being reduced?

The Sendai Framework targets A to D can be applied to the decade 2005–2014 and compared with the decade 2009–2018 to determine an increase or decrease in the value. This value is then compared to the world achievement level with the same baseline (figure 2.5). The Arab region registers an increase in economic losses and disruption of basic services compared with the world level, but a relative decrease, comparatively, in the number of deaths and people affected by disasters.¹⁶⁵

Figure 2.5 Evaluation of progress in targets A to D



Source: Sendai Framework Monitor, 2018. Available at <https://sendaimonitor.undrr.org/> (accessed on 10 April 2020).

4. National databases versus EM-DAT for extreme events

Ten Arab States have DesInventar databases, which are updated with varying degrees of regularity. Further, four additional States have proprietary national disaster loss databases. To implement the Sendai Framework recommendations effectively, efforts should be made to generate disaggregated loss data and develop consistent national methodologies for estimating direct and indirect disaster losses to inform national, local and sectoral development, and climate change mitigation and adaptation policies and strategies.¹⁶⁶ In reviewing disaster loss data related to individual targets, it was decided EM-DAT would be used to provide a regional trend rather than data related to national databases; only 10 countries have provided disaster loss data, but intermittently.¹⁶⁷

5. Target A: mortality

The ASDRR shows a 275 per cent increase in fatalities due to natural disasters from 2006 to 2015, compared with 1990 to 1999.¹⁶⁸ Figure 2.6 shows the deaths in the period 1970–2020, based on EM-DAT reports that show drought caused the maximum number of deaths (189,623) or 90.3 per cent of all such deaths.

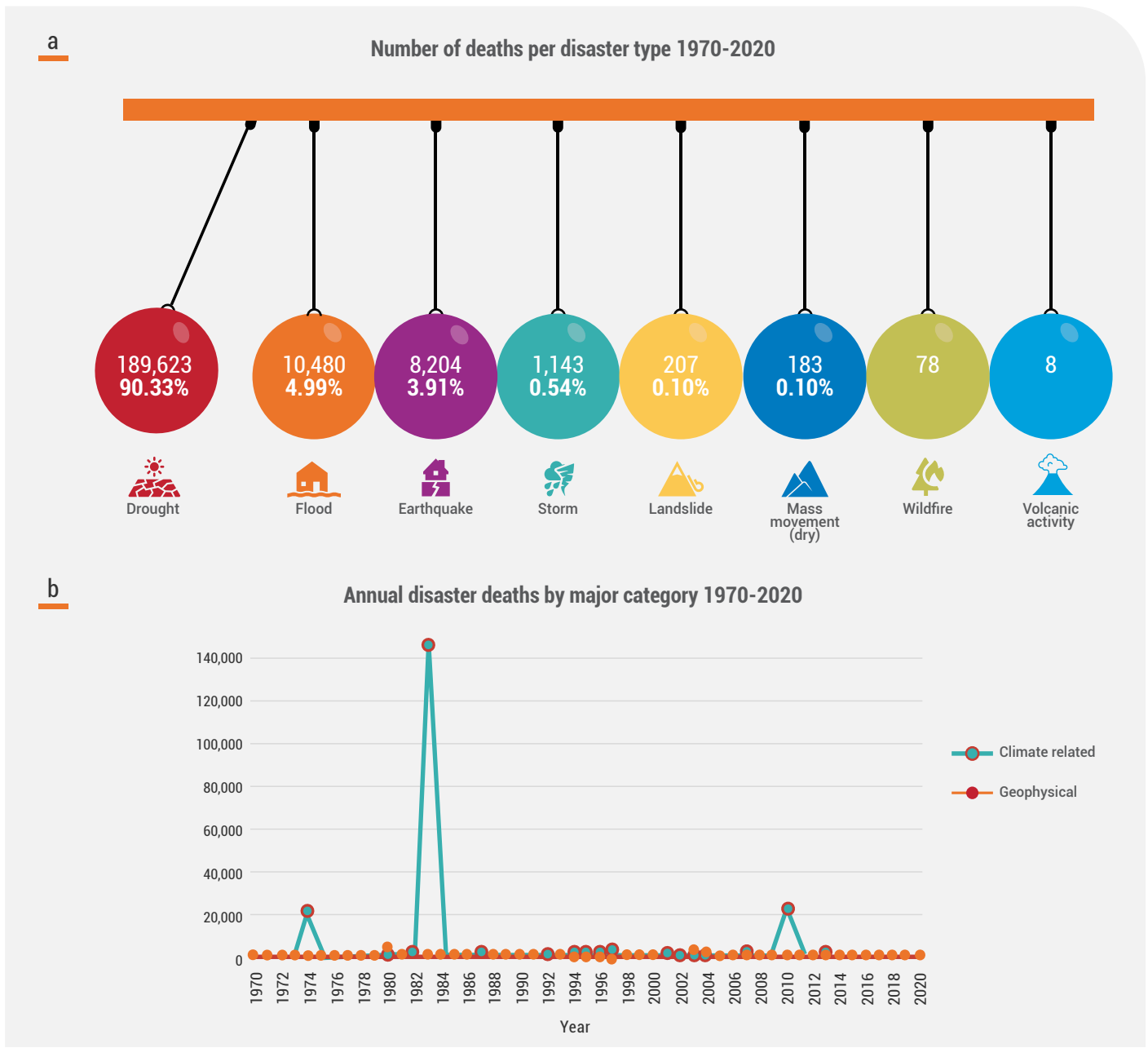
¹⁶⁵ Probably due to practices in disaster loss collation that focus on reimbursement of eligible populations directly affected by disasters and do not collate numbers based on UNDRR scope of affected populations – as reported by various HFA regional progress reviews. This figure does not account for war-related fatalities and affected people.

¹⁶⁶ UNDRR, 2015.

¹⁶⁷ Centre for Research on the Epidemiology of Disasters, 2020.

¹⁶⁸ UNDRR, 2018a.

Figure 2.6 Disaster mortality (a), and annual disaster mortality (b), 1970–2020



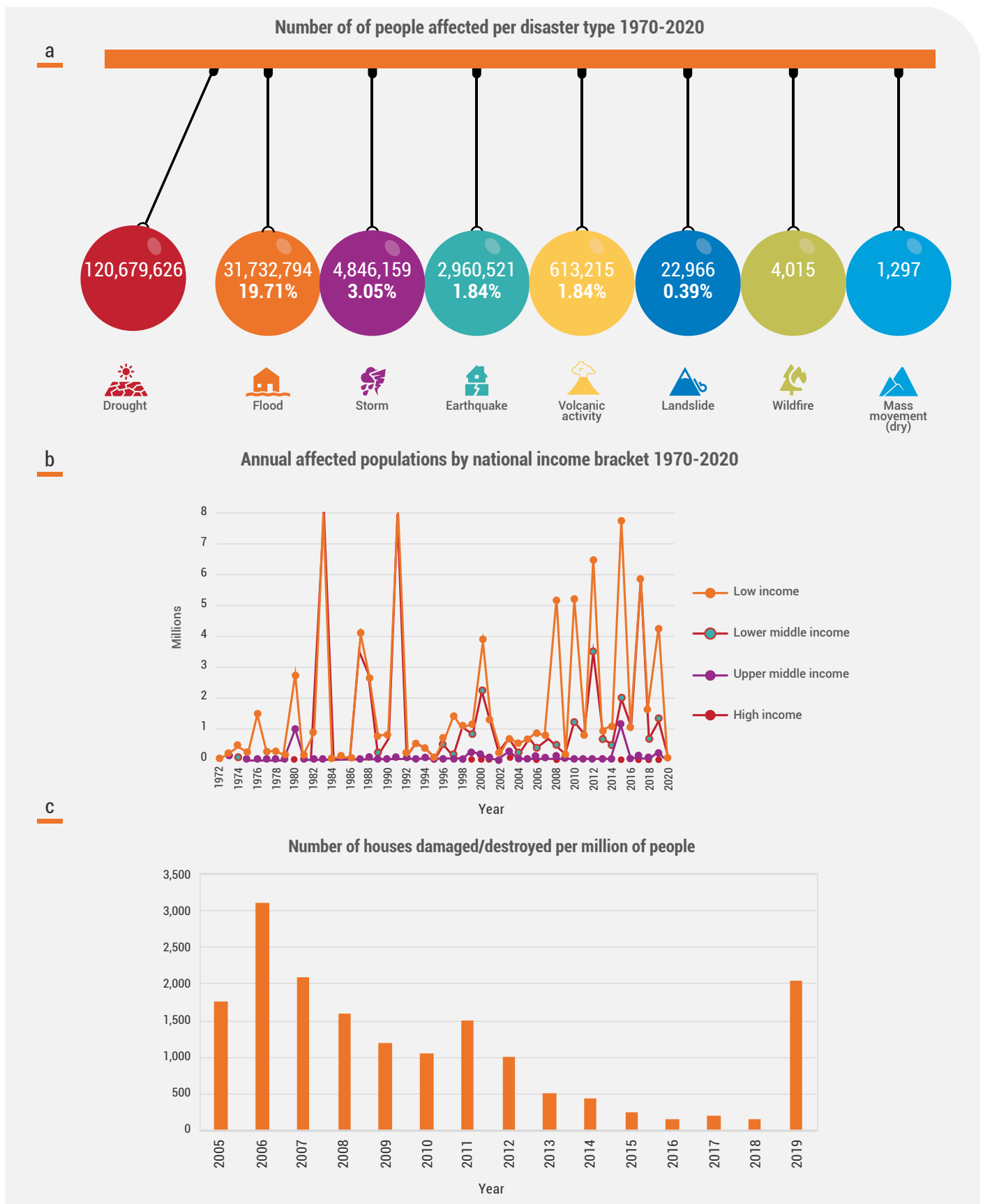
Source: CRED, 2020.

Two critical elements to meet the global targets for reducing mortality are to develop national disaster loss databases to first, increase the number of countries reporting on this target, and second, attempt to disaggregate fatalities per hazard category and intensive versus extensive risks. This will allow countries to further recognize the true human cost of disasters, and to prioritize efforts to reduce disaster-related mortality.

6. Target B: people affected

Figure 2.7 indicates that most people in the Arab region were affected by droughts, followed by floods and then storms, earthquakes, volcanic activity, landslides, wildfires and mass movement, with lower-income groups most disproportionately affected. The number of damaged and destroyed houses, which varies significantly, needs to be disaggregated into extensive and intensive risk to obtain a complete picture of the damage distribution within an income group.

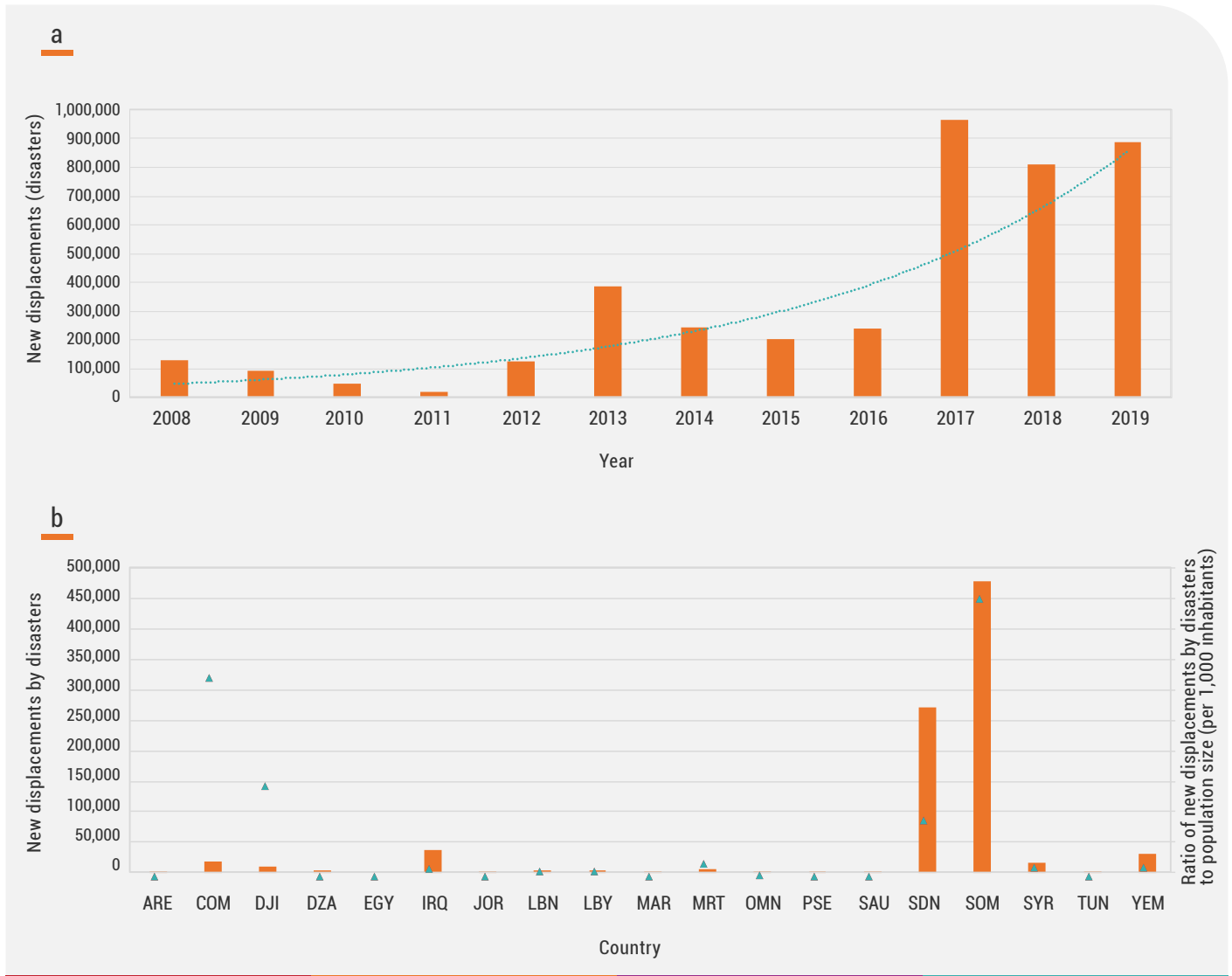
Figure 2.7 People affected by disaster (a) and people affected annually, by national income bracket (b), 1970–2020, and houses damaged/destroyed according to population size (c)



Source: CRED, 2020; Sendai Framework Monitor, 2018. Available at <https://sendaimonitor.undrr.org/> (accessed on 10 April 2020).

The complexities of population movement act as risk drivers, as represented by the limited access of internally displaced persons to decent jobs, and settlement in high-risk areas, thereby increasing the risk of secondary displacement. Meeting global targets for reducing those affected requires that special attention be paid to displaced people, in addition to the working poor and other vulnerable groups. Figures 2.8 (a) and (b) show new displacements by disasters at regional and national levels, respectively. These come on top of displacement due to conflict.

Figure 2.8 New displacements by disasters at regional (a), and national levels (b)



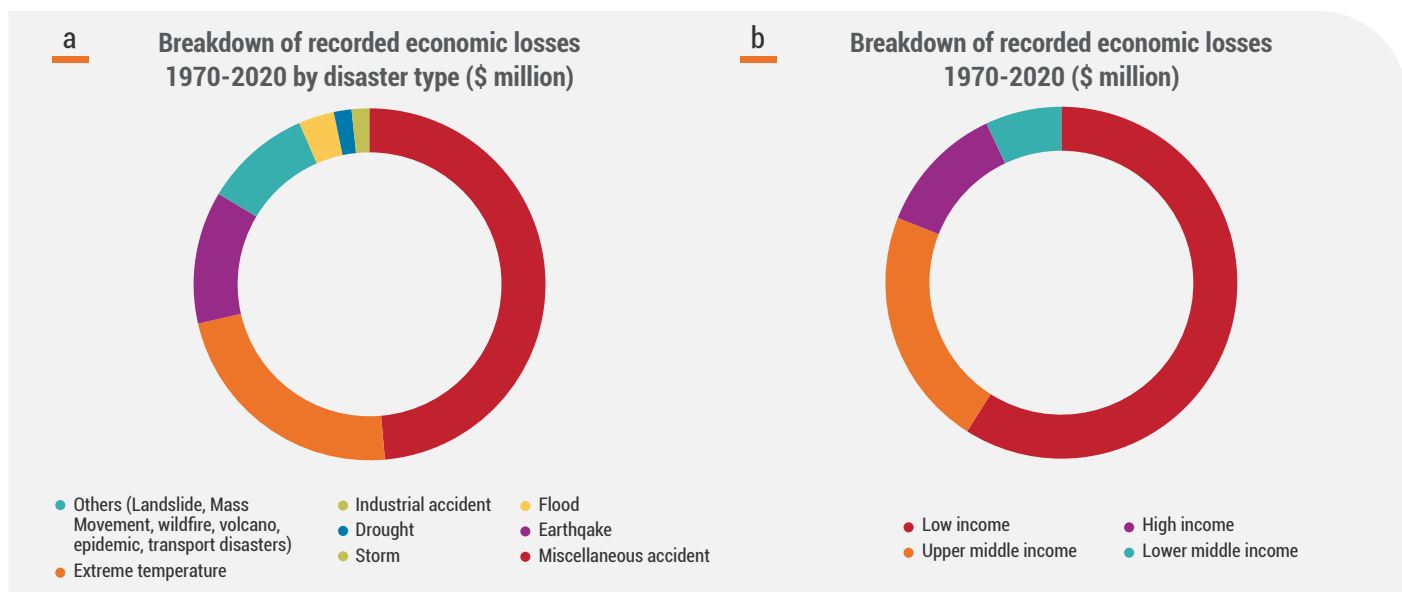
Source: IDMC, 2020b.

7. Target C: direct economic loss

Droughts are by far the costliest type of disaster in the Arab region (figure 2.9), with reported losses of \$29.742 billion over the past 50 years, three times those reported for either flooding or earthquakes. Further, reporting patterns are skewed to storm and drought damages, with 55 per cent of occurrences, compared with 11 per cent for extreme temperature events. The least reported types of disaster are dry mass movements, landslides and volcanic activities. The \$34.846 billion in losses recorded by EM-DAT over the period 1970–2020 in low-income countries (59 per cent of total losses) is a fraction of real total losses.

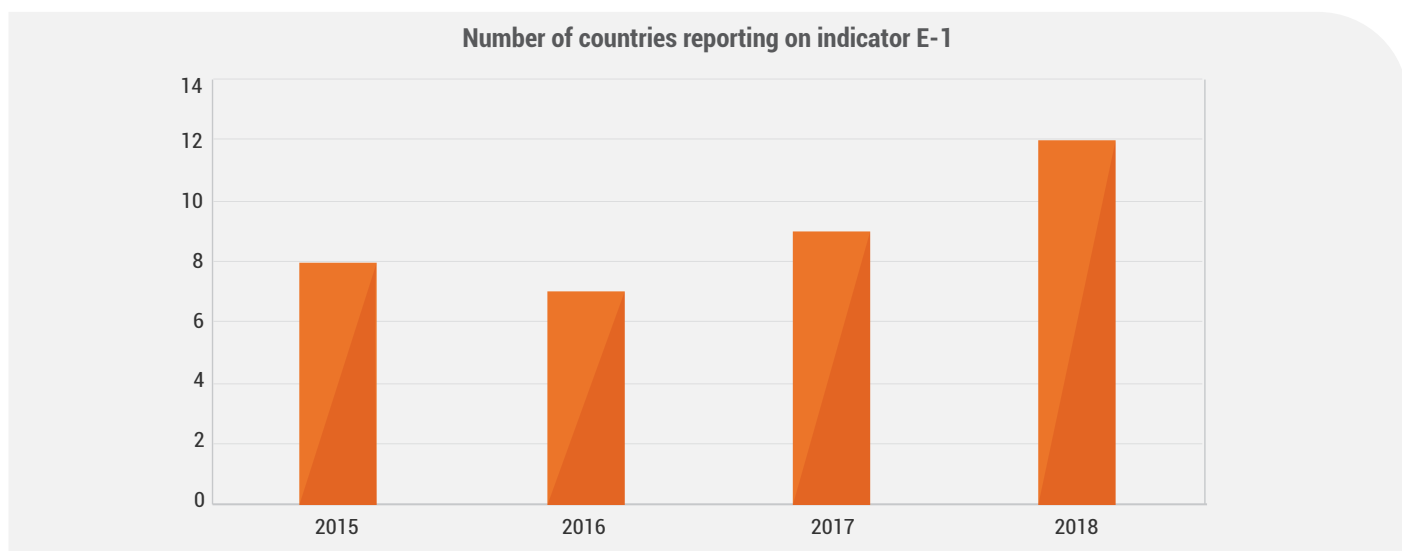
Data related to reporting on direct economic losses within national databases is scarce, due in part to capacity, awareness and coordination challenges. Meeting global targets for reducing direct economic losses requires Arab countries to report on direct economic losses per sector and hazard, and collate and differentiate between direct economic losses due to extensive versus intensive risk.

Figure 2.9 Economic losses (a), and economic losses by national income bracket (b), 1970–2020



Source: CRED, 2020.

Figure 2.10 Indicator E-1, countries reporting on national DRR strategies, 2015–2018



Source: Sendai Framework Monitor, 2018. Available at <https://sendaimonitor.undrr.org/> (accessed on 10 April 2020).

8. Target D: damage to critical infrastructure and public services

Meeting global targets for reducing damage to critical infrastructure and public services requires countries to collate information on damage to critical infrastructure per hazard type, disruption to public services per hazard type, and damage and disruption disaggregated per intensive versus extensive risks.

9. Target E: progress on disaster risk reduction strategies

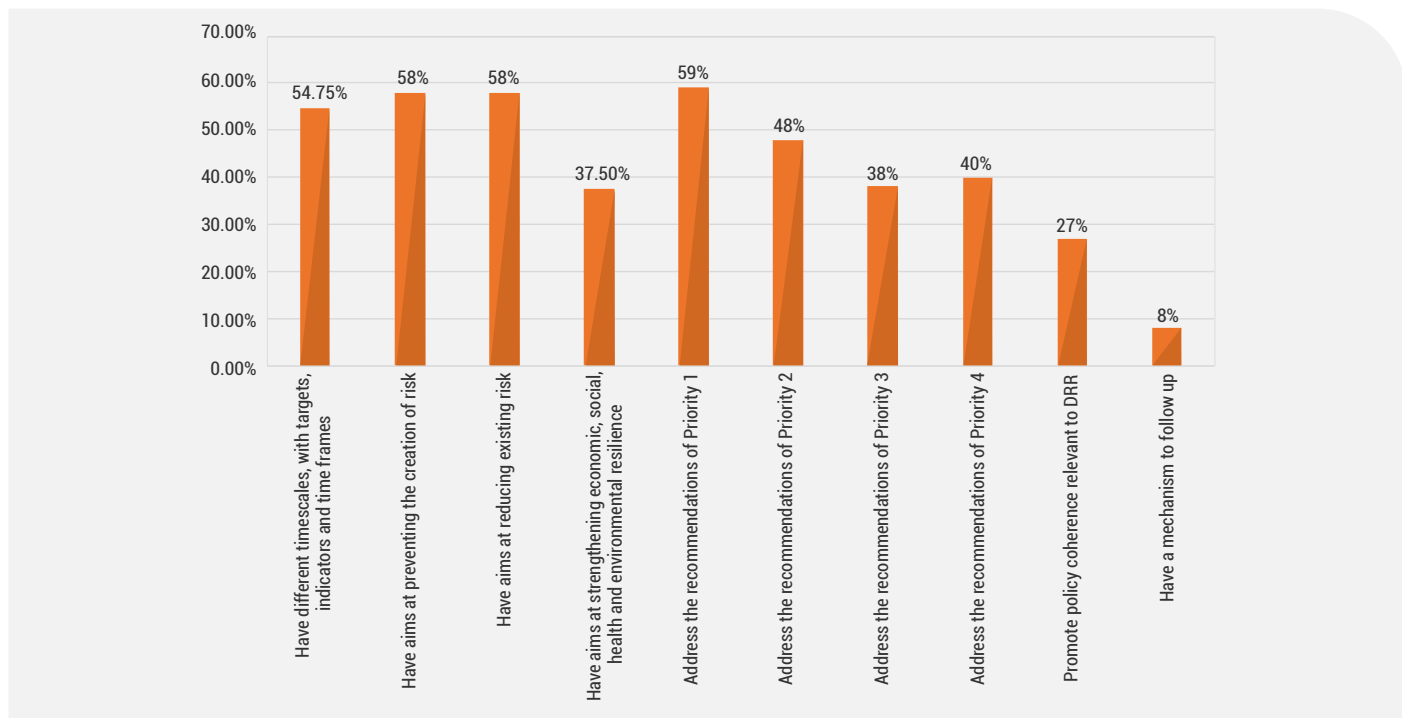
The number of countries reporting on national DRR strategies is increasing (figure 2.10), with 8, 7, 9 and 12 countries reporting on progress over the years 2015–2018, respectively.

Priority one of the Sendai Framework has been easier to align in the region, with gaps remaining in addressing priorities three and four (figure 2.11). Other areas where improvement is required include strengthening economic, social, health

and environmental resilience. Little progress is observed in achieving policy coherence to DRR, in addition to major gaps in follow-up mechanisms.

The number of countries reporting on progress in developing local DRR strategies – indicator E-2 – is increasing (figure 2.12), with 5, 4, 6 and 6 countries reporting in 2015 through to 2018, respectively.

Figure 2.11 Alignment of national DRR strategies with 10 Sendai Framework elements



Source: Sendai Framework Monitor, 2018. Available at <https://sendaimonitor.undrr.org/> (accessed on 10 April 2020).

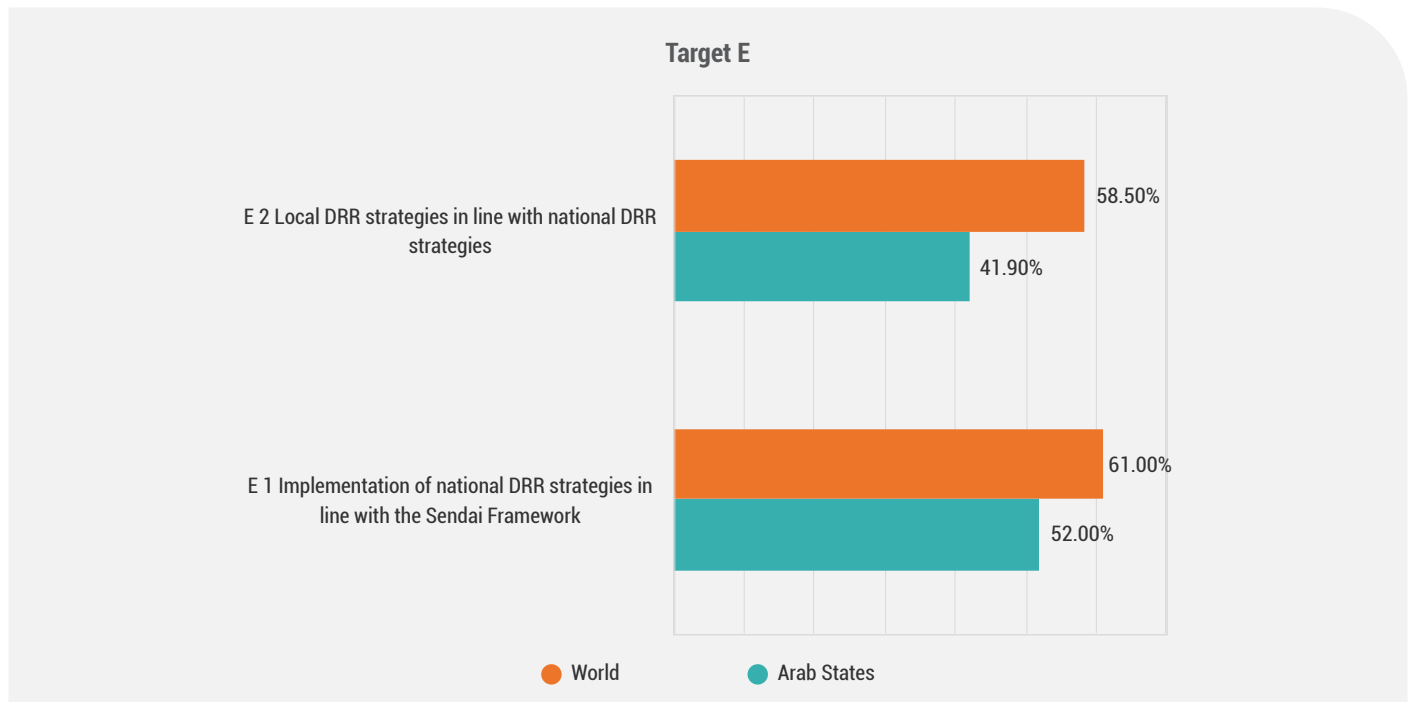
Figure 2.12 Indicator E-2, countries reporting on local DRR strategies, 2015–2018



Source: Sendai Framework Monitor, 2018. Available at <https://sendaimonitor.undrr.org/> (accessed on 10 April 2020).

For target E, the actual achievement of targets for 2018 is calculated in percentage value and compared with the world level target achievement for the same year (figure 2.13). Both subtargets lag behind, the local level target being 70 per cent of the world average.

Figure 2.13 Achievement of target E, 2018



Source: Sendai Framework Monitor, 2018. Available at <https://sendaimonitor.undrr.org/> (accessed on 10 April 2020).

10. Target F: measuring international cooperation

Regional data for tracking official development assistance (ODA) and DRR expenditure – similar to that at global level – is incomplete.¹⁶⁹ For Arab countries to meet global targets on international cooperation, and to make an evidence-based case on the effectiveness of DRR measures, there is a need to improve efforts to track expenditure on DRR by line ministries and DRR agencies, and track incoming and outgoing international cooperation by line ministries and specialized DRR agencies.

11. Target G: multi-hazard early warning systems

As on the global level, reporting against target G has been a challenge for most Arab States, particularly those in fragile contexts; the four elements of people-centred multi-hazard early warning system (PCMHEWS),¹⁷⁰ even when developed at national/city level, are not sufficiently linked to act as a functioning system. To meet global targets on developing PCMHEWS, Arab States must develop the four elements of the system, and ensure they form the components of one linked functional system.

Box 2.1 Multi-hazard early warning system in the United Arab Emirates

The National Emergency Crisis and Disaster Management Authority has developed a general national framework for early warning that covers most natural hazards and threats. The framework engages all relevant local and national authorities, and identifies an activation mechanism (figure 2.14).

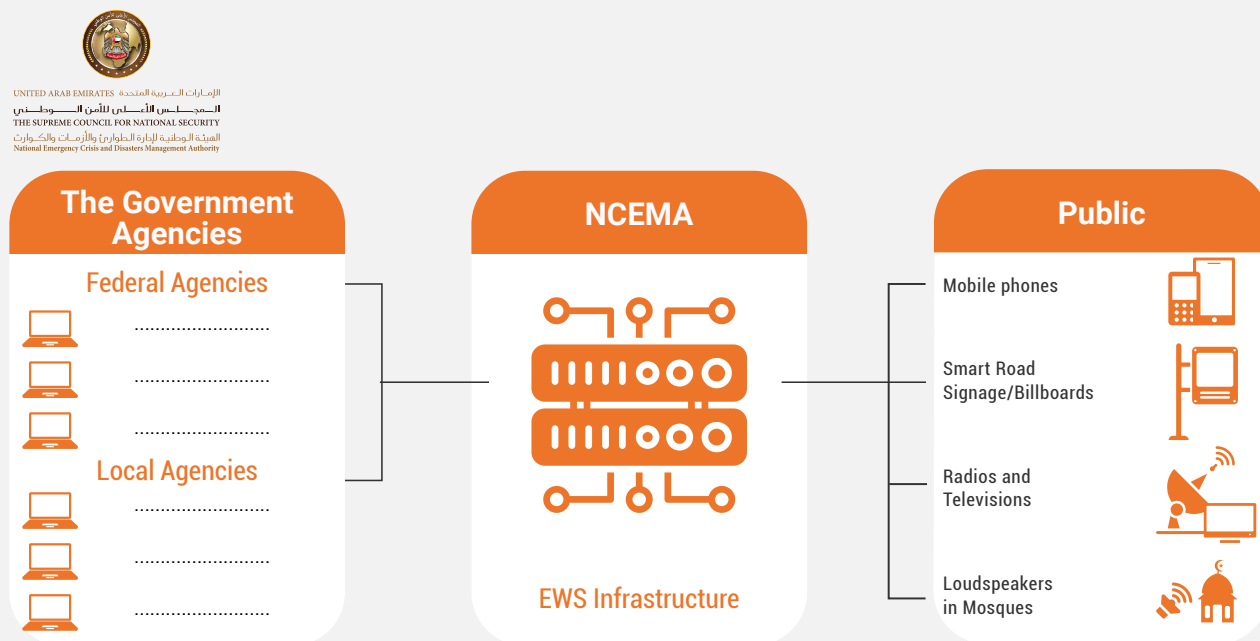


¹⁶⁹ UNDRR, 2019a.

¹⁷⁰ The four elements of people-centred multi-hazard early warning systems are: i) multi-hazard risk assessments and monitoring; ii) monitoring and forecasting; iii) dissemination and communication reaching wide coverage; iv) preparedness to respond and response plans.

The mechanism for activating the system is based on several inputs and databases, and monitoring and follow-up systems with national and regional coverage. This includes: (i) a national risk register and a database indicating the damage caused by major disasters and events; (ii) weather and climate nationwide monitoring stations covering the various sectors; (iii) a national and regional weather radar network that monitors violent phenomena and weather in the Gulf; (iv) a smart monitoring network to measure the seismic impact in major Emirati cities; (v) high-definition multichannel satellite stations; and (vi) high-definition numerical prediction models for multiple environmental hazards.

Figure 2.14 National framework for early warning system, the United Arab Emirates



Source: United Arab Emirates, Supreme Council for National Security, National Emergency Crisis and Disasters Management Authority, 2017.

To ensure that the system reaches the largest segment of people in a timely manner, the framework coordinates the roles and responsibilities of all local and national authorities, using traditional and modern methods provided by technology, and protocols of social communication networks

12. Progress on disaster risk reduction and related SDGs

A review of regional progress in implementing the Sendai Framework-related SDGs¹⁷¹ shows mixed results for SDG 13 and slower progress in SDG 11, while SDG 1 remains difficult to monitor due to data scarcity. The region's average index score for all SDGs is 58, as noted in the Arab Region SDG Index and Dashboards Report, 2019.¹⁷² These SDGs can be seen as drivers in reducing disaster risk, the success of which indicating progress in the objectives of the Sendai Framework.

More recently, four Arab countries, namely Comoros, Libya, Morocco and the Syrian Arab Republic, submitted voluntary national review reports during the 2020 High-level Political Forum (HLPF). Comoros reported disaster information related to SDG 1 (no poverty), SDG 2 (zero hunger) and SDG 13 (climate action), while Morocco reported disaster information related to SDG 11 (sustainable cities and communities).¹⁷³

171 Sachs and others, 2019.

172 Luomi and others, 2019.

173 United Nations, Department of Economic and Social Affairs, Division for Sustainable Development Goals, "Voluntary National Reviews 2020". Available at <https://sustainabledevelopment.un.org/hlpf/2020> (accessed on 11 March 2020).

C. Sectoral strategies in mainstreaming disaster risk reduction

DRR efforts to develop, recover and reconstruct PCMHEWS – including preventing new risk and reducing existing risk – are often best achieved when national DRM recommendations and international best practices are mainstreamed to the sectoral level (while not underestimating the importance of cross-sectoral efforts and mechanisms for coordinating DRM initiatives, including establishing DRR agencies and platforms). It is for this reason that data disaggregated by sector is required for a full reporting under the Sendai Framework, particularly for global targets C and D, where the indicators require more accurate collating.

Box 2.2 *Agriculture sector disaster risk reduction regional strategies*

There are few sections in the ASDRR 2030 where agriculture is specifically mentioned.^a It followed a review of the ASDRR 2020, which identified gaps and opportunities in DRR policies and processes for the sector.^b A recurrent observation was the need for enhanced disaggregated information, stronger evidence and multi-hazard early warning frameworks, in addition to opportunities for policy development and coherence, and participatory processes.

In light of this, the Food and Agriculture Organization of the United Nations (FAO) has been supporting agriculture ministries in the region to mainstream DRR. In Lebanon, Egypt and Jordan, work is ongoing to understand the major hazards and risks that will contribute to the development of DRR action plans complementing each country's national agriculture strategy. In addition, FAO is working towards strengthening evidence for risk-informed policy development in the sector and building early warning and information systems to facilitate anticipatory action across agriculture subsectors, including transboundary plant pests and animal diseases.

a Agriculture is mentioned in table 24, Agriculture and forestry and identification of gaps, of the ASDRR. See UNDRR, 2018a.

b UNDRR, 2018b.

Box 2.3 *Infrastructure seismic resilience*

The report, Making Algeria Resilient,^a summarizes the country's efforts in building capacity. Such endeavours are informed by research studies and include sectoral risk assessments that prioritize infrastructure resilience through stringent building codes and national insurance policies. The National Center of Applied Research in Earthquake Engineering, under the Ministry of Housing, Urban Development and the City, provides risk modelling and simulations to inform national building codes, and the citing and zoning of all projects undertaken by ministries with regard to urban planning, major infrastructure and public works. The centre's research, including through advanced shake table technologies, has been critical in fully mainstreaming a scientific vision for DRR across critical sectors, such as urban housing, settlements and land use planning.

a UNDRR, 2013A.

Box 2.4 *Risk awareness and disaster risk reduction through knowledge, innovation and education*

Bahrain's National Major Civil Contingency Strategy^a aims to mainstream DRR and develop a culture of safety, risk awareness and risk reduction through knowledge, innovation and education, at all levels. The strategy builds on the strength of schools to bridge the gap between scientific knowledge and practical local action. Curricula are developed to inculcate in young people attitudes that are risk-informed and risk-averse, from schools to university levels. Educational campaigns and school drills are undertaken, and hazard and risk-related information to raise awareness is included in school syllabuses. The current risk information is assessed across age groups and then assimilated in curricula. Applied research is used to inform public opinion and raise awareness, and teachers are trained to deliver DRR concepts effectively.

a Bahrain, National Committee for Disaster Management, n.d.

Box 2.5 Investment, finance and insurance

The National Strategy for Disaster Risk Reduction (NSDRR) 2030, endorsed by the Cabinet of Egypt,^a recognizes the importance of DRR as one of the essential elements supporting the sustainable development strategy, and its policies, legislation, plans and programmes. The NSDRR stresses the importance of developing organizational frameworks that support providing funds and loans to sustainable development projects. These include providing suitable incentives and supportive legislation for a stable and effective capital market. The strategy includes the social sector, through prioritizing lending to small and micro-enterprises and CSOs operating in community development, the environment, and disaster management, and with development and agricultural banks. It highlights the importance of result-based financing and the need to create DRR funds. The NSDRR places value on protecting public and private investments through insurance mechanisms linked to risk assessment results, and seeks to increase the role of the insurance sector in disaster risk financing. It also prioritizes investment in the development of early warning systems to enhance preparedness. With its focus on financial planning to implement the sustainable development agenda, this sectoral strategy aligns with the AAAA.

a Egypt, Cabinet of Egypt, Information and Decision Support Center, 2017.

Box 2.6 ICT disaster recovery and response

The Kuwait Government Initiative for ICT Disaster Response^a outlines the sectoral strategy for ICT business continuity and disaster recovery. It mandates the Central Agency for Information Technology (CAIT) to supervise implementation of the national strategy and provide physical and network security to mitigate cyber risk. To fulfil this requirement, CAIT set up a national data centre with the authority to secure backup of all critical government data, at all levels. Government agencies are requested to prepare a Business Continuity Plan and test it regularly for operational efficiency.

The strategy ensures smooth coordination of the disaster response, with a network operations centre running proactive monitoring to identify malfunctions, based on technical risk assessment at national level. It is linked to the network of GCC countries for disaster preparedness and response, ensuring multi-stakeholder DRR partnerships at regional level.

a World Resources Institute, 2019.

Box 2.7 COVID-19 multi-stakeholder multisectoral strategy

In the United Arab Emirates, government measures in response to COVID-19 included an emergency national strategy^a designed to: (i) ensure quality food is constantly available; (ii) provide continuous health care and medicine; (iii) mitigate the economic and social impacts of COVID-19 and contribute to business continuity and livelihoods; (iv) provide support to friendly nations; (v) enhance state-society trust; and (vi) strengthen national and community resilience.

The strategy engages the food and water, health, safety and security sectors, with its application being the responsibility of the National Forum for DRR. The forum was set up in 2018 to coordinate the implementation of the national DRR strategy in line with the Sendai Framework. Forum members include the National Emergency Crisis and Disaster Management Authority, the ministries of Interior, Defense, Climate Change and Environment, Energy and Infrastructure, and Health and Protection, the Federal Competitiveness and Statistics Centre, the Insurance Authority and the National Center of Meteorology. The strategy has succeeded in ensuring business continuity and safeguarding livelihoods, while protecting people's health and preventing the uncontrolled spread of the coronavirus, thereby improving state-society trust and state security.

The United Arab Emirates has cultivated the first private sector alliance for DRR, the ARISE initiative.^b Officially launched in November 2020, ARISE was conceived to close a number of preparedness gaps identified by private sector actors against a backdrop of the COVID-19 pandemic. It consists of various groups within the economy, including the real estate sector, the health care sector, technology start-ups, and asset management



and business management consultants. To address the risks posed by human-made and natural hazards, the group works to gather untapped expertise and resources across sectors in the United Arab Emirates, thereby aligning itself with three ARISE global priorities, namely integrating disaster risk into financial sector investment, building resilient infrastructure and enhancing the resilience of micro, small and medium-sized enterprises.

ARISE-UAE has played a significant role in the COVID-19 response through a series of activities. These include training on business continuity for firms, surveys and analyses on disaster risk and providing a forum for other stakeholders to engage with the private sector. The activities have sought to build on the know-how of firms while assessing the environment in which the private sector operates, and to develop tools to build resilience across firms. All activities are orientated to appeal to regulators, and illustrate the need for DRR initiatives and a regulatory framework capable of using up-to-date preparedness tools to continuously enhance resilience.

a United Arab Emirates, Supreme Council for National Security, National Emergency Crisis and Disasters Management Authority, 2020.

b UNDRR, 2020e.

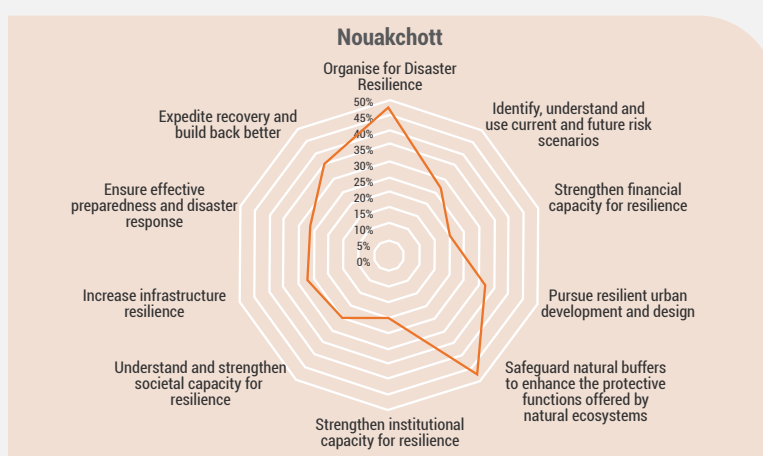
D. Regional progress in implementing the Sendai Framework at local level

The Sendai Framework underlines the importance of resilience building at local level, recognizing that participatory approaches involving local stakeholders are crucial to achieving sustainable development. City plans drive the cultural, environmental and economic realities of each territory. Moreover, many hazards are local to a particular city, which requires that resilience capacity be developed at that level. Six Arab cities (Aqaba, Zarqa, Khartoum, Dubai, Nablus, Nouakchott) have followed the Ten Essentials criteria developed by UNDRR – they map directly against the Sendai priorities and its indicators for monitoring actions on DRR – to assess their resilience and develop local action plans,¹⁷⁴ and four cities (Amman, Byblos, Luxor, Ramallah) are part of the Rockefeller Foundation’s 100 Resilient Cities campaign.

Box 2.8 Nouakchott Disaster Risk Reduction Plan

Nouakchott’s 2019–2023 DRR plan includes natural and health hazard-based risk assessment.^a It identifies the need for a coherent legislative and institutional framework, especially as draft DRR laws and implementation decrees are pending approval. Based on the Ten Essentials criteria, the city’s score in 2019 was 28 per cent, well below the world average of 42 per cent. The plan proposes activities with targets and time frames as per the Ten Essential criteria, with budget sources identified.

Figure 2.15 UNDRR* Ten Essentials, Nouakchott



Source: Mauritania, Nouakchott Authority and UNDRR, 2019.

Note: * The United Nations Office for Disaster Risk Reduction officially changed its acronym to UNDRR from UNISDR in 2019.

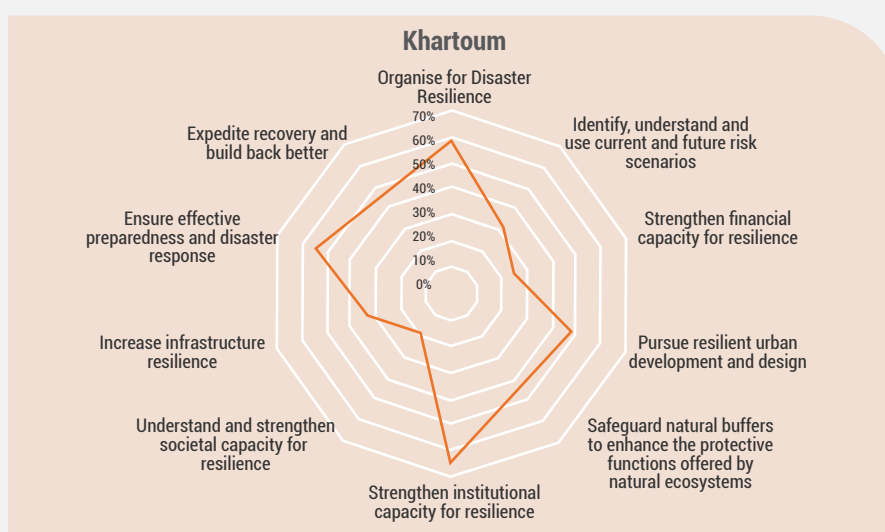
a Nouakchott Authority and UNDRR, 2019.

Box 2.9 Khartoum State Disaster Risk Reduction plan

Khartoum State, which contains the capital city of Khartoum, is the major trading, financial and political centre of the Sudan. Its risk reduction action plan,^a prepared in consultation with stakeholders including civil society, academia, NGOs and the private sector, identifies drought, flash floods and floods, torrential rains, earthquakes, dust storms, fires, epidemics and environmental hazards as the main threats to the state. The plan addresses the social aspects of vulnerability and seeks to empower residents through a community-based, bottom-up approach to DRR. Based on the UNDRR scorecard, the current status of resilience in Khartoum is 41.5 per cent, close to the world average.

The plan identifies local leadership, and draws on the assets and skills of the community to ensure their participation and ownership. Linkages between DRR, CCA and sustainable development plans are identified under the main pillars of environmental protection, urban development, green cover, natural waterways and rural settlement systems. The timeline and budget needs and sources to achieve set targets are clearly defined, and a coordination and accountability framework has been developed to monitor implementation status.

Figure 2.16 UNDRR* Ten Essentials, Khartoum



Source: The Sudan, Ministry of Infrastructure and Transport, and UNDRR, 2019.

Note: * The United Nations Office for Disaster Risk Reduction officially changed its acronym to UNDRR from UNISDR in 2019.

a The Sudan, Ministry of Infrastructure and Transport, and UNDRR, 2019.

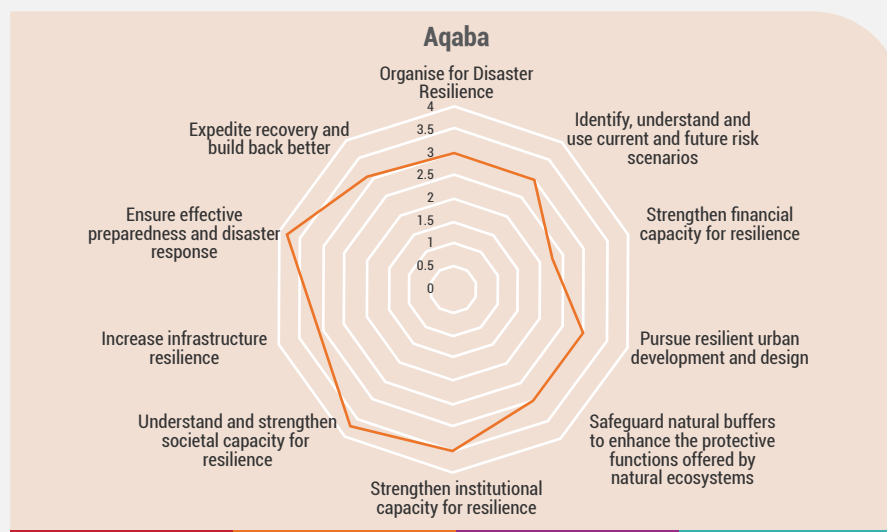
Box 2.10 The Aqaba Risk Reduction and Resilience Action Plan

Aqaba is strategically important to Jordan. The country's only seaport city, it is an important import and export hub, with several industrial activities, and the main administrative centre in southern Jordan. Aqaba is vulnerable to earthquakes, flash floods, sandstorms and industrial hazards. The Aqaba Risk Reduction and Resilience Action Plan 2016^a assessed seismic and other hazards affecting the city, including floods and flash floods, drought and extreme heatwaves. The plan recommends the city development plan be more risk-informed, through integrating the risk reduction plan within the local development plan. It also provides legislative recommendations to allow the Aqaba Special Economic Zone Authority (ASEZA) to more effectively participate in DRR. The plan recognizes the impact of economic growth on the existing marine ecosystem and advises integrating ecosystem services into urban land-use planning.

Aqaba Women's Association is included as a stakeholder, tasked with increasing women's role in DRR activities, with civil society working to generate awareness. The private sector is engaged in developing

contingency plans. The plan has scope for improvement in developing financial measures, including insurance and incentives for private sector investment and a dedicated fund for DRR activities, and strengthening its social vulnerability perspective.

Figure 2.17 UNDRR* Ten Essentials, Aqaba



Source: Aqaba Special Economic Zone Authority (ASEZA) and UNDRR, 2016.

Note: * The United Nations Office for Disaster Risk Reduction officially changed its acronym to UNDRR from UNISDR in 2019.

a ASEZA and UNDRR, 2016.

E. Conclusion

This RAR is informed by the latest disaster data made available by Arab States, and that are available in international databases. Data are lacking on direct economic losses and damage to critical infrastructure and public services. Available disaggregated data need to be improved, including by gender, age, ability and poverty status, to better link to sustainable development and CCA, and a truly coherent and integrated approach for sustainable development needs to be adopted. The Sendai Framework Monitor represents an opportunity for countries to collate disaggregated data on disaster losses. While the monitoring period is too short to draw conclusions at regional level, it is possible to observe the following patterns:

- A common challenge observed in DRM strategies and action plans is the lack of legal and institutional support at country and local level. This makes it difficult to devise financial mechanisms to implement national and local level strategies, as highlighted in the AAAA, and limits the scope of private sector engagement. It also impedes accountability in implementing DRR strategies. This can cause poor reporting and documentation gaps at regional level. The absence of risk governance mechanisms creates the potential for disaster losses to cascade across interconnected socioeconomic systems, especially in cases of conflict.
- A common challenge facing Arab cities is in urban development, where ageing, non-resilient infrastructure networks of communication, roads and drainage lead to the creation of systemic risks. Additional effort is required to collate damages on infrastructure losses and interruption to basic services.
- Arab countries are increasing the number of local and national strategies in line with the Sendai Framework, reported to be 41 per cent and 52 per cent, respectively, in 2018.
- National DRR strategies often focus on hazard assessment rather than comprehensive risk assessment including all dimensions of vulnerability, capacity, exposure and the environment.
- National DRR strategies do not sufficiently identify and integrate gender and social issues based on participatory multi-stakeholder approaches. Addressing this gap could be an entry point for improving coherence and integration across the SDGs and the Paris Agreement.

- National DRR strategies do not sufficiently address financing needs and resources, including from national and international sources, and public and private sectors. Several countries recognize the role of the private sector as a partner in investment and insurance but a proactive private sector contributing to disaster-resilient investments is yet to be developed.

While some States have advanced early warning technologies, others depend on regional weather forecasts. Widespread availability and access to people-centred MHEWS, as envisaged by the Sendai Framework, are yet to be achieved.