



# Regional Assessment Report on Disaster Risk Reduction in the Arab region 2021

Executive Summary

# R V R



**UNDRR**

UN Office for Disaster Risk Reduction



Regional Office for Arab States

# RVR

*Executive summary*

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# Background of fragility and vulnerability

Development priorities in the Arab region have contributed to its climate and disaster risks. While Arab countries are economically diversifying, this has not created enough decent employment, increased labour productivity or wealth redistribution. Governments are the largest employers. Small and medium enterprises comprise the vast majority of registered companies and provide about half the jobs, but receive the lowest bank lending, globally. The regional unemployment rate was in recent years the highest globally and almost double the world average. Excluding agriculture, informal employment in most countries is more than half of total employment.

The region thus has among the highest levels of wealth concentration and income inequality worldwide. Despite periods of positive economic growth, incomes of the poor have not improved much. Access to basic services is limited. Intraregional inequality is high and rising. Regionwide, out-of-pocket expenditure on health and education consumes significant shares of poor and middle-class disposable incomes. Recently, the region has also recorded the only increase in extreme poverty globally. Furthermore, extreme poverty in the region is higher than the world average and all developing regions, save sub-Saharan Africa. Propensity to slip into extreme poverty, especially in middle-income countries is high.

The above development pattern leads to an unfair distribution of risks and benefits arising from the processes of resource use. At the same time, the region witnessed a 275 per cent increase in fatalities due to disasters triggered partly by natural hazards between 2006–2015, compared with 1990–1999. Direct economic losses recorded within international databases over the period 1970–2020 amount to \$59.061 billion dollars, a figure envisaged to be significantly underestimated due to the fact that it does not correspond to extensive risk losses and also due to weak reporting mechanisms in the region, with fewer than half the Arab countries having national databases that are regularly updated. Furthermore, drought is responsible for the largest number of disaster fatalities and economic losses, disproportionately affecting rural populations and livelihoods where the majority of the Arab poor reside.

This development pattern, combined with the disaster loss patterns and trends, makes the Arab region particularly vulnerable to systemic risks due to intertwining environmental degradation, environmentally unsustainable production and consumption patterns, multidimensional poverty, rapid and poorly managed population and urban growth, water scarcity, inefficient agriculture practices, pandemics, population displacement, disease outbreaks, market volatility, governance deficits and disrupted social cohesion. These systemic risks if not addressed will threaten the fabric of society and social cohesion in several Arab countries, with spillover effects to neighbouring ones.

To allow Arab populations to embark on a development path that is at least manageable, and at best sustainable and regenerative (consistent with the aspirations of 2030), Arab countries are encouraged to direct their efforts at enhancing risk literacy for all sectors and stakeholders, at all scales. In particular, Arab countries should enhance their capabilities to quantify risk information, collate, disaggregate and analyse exposure, vulnerability and disaster loss data, and understand the complex processes and feedback loops contributing to existing systemic risks. Finally, a fundamental review of governance arrangements to deal with risk, including capabilities, agency and values, is essential.

## Emerging complex systemic risks

The Sendai Framework for Disaster Risk Reduction (SFDRR) expanded the list of hazards that need to be considered, from natural ones to those with biological, technological and anthropogenic causes. As a support for a comprehensive implementation, the Global Risk Assessment Framework (GRAF) aims to provide the basis for a systems-based approach to disaster risk reduction, integrating the expertise from multiple disciplines and contributing to the development of risk-informed decision-making whose pillars are the consideration and understanding of the multidimensional nature and dynamic interactions of disaster risk. Inspired by this innovative approach to tackling emerging cascading and systemic risks, **RAR-Arab States** makes reference to the complex and dynamic nature of systemic risk, the unfolding COVID-19 crisis and the emerging responses to it at the local, national and regional levels.

The SFDRR and GRAF underlined the importance of moving beyond the era of a hazard-by-hazard approach for risk reduction in view of cascading systemic risks interacting across environmental, economic, social and financial systems. However, this is a challenge for most Arab countries, which continue to adopt a centralized, and compartmentalized, approach to risk assessment and risk reduction, without sufficient mainstreaming of disaster risk reduction (DRR) considerations at the sectoral, local and community levels. A related challenge is having the data, methods and tools to account for the emerging systemic risks interacting across environmental, health, physical, social and economic systems.

In particular, **RAR-Arab States** identifies seven systemic risks affecting the Arab region, some of which are then discussed in detail in later chapters, namely: rural/agricultural risk with rising food insecurity; systemic risk in a rapidly urbanizing region; over dependency on natural resource extraction and non-sustainable consumption and production patterns; the COVID-19 pandemic; cyber risk in cities with advanced infrastructure systems; emerging nuclear energy risks; and the climate change-disasters-conflict-migration nexus.

To allow Arab countries to sustainably manage and possibly reduce these systemic risks, there is a need to review and revamp existing institutional arrangements for risk governance, data collation mandates, methods, tools and practices, community engagement, organization and resilience building efforts, science and technology research and innovation, policy formulation, and investments into DRR, climate change adaptation and sustainable development at all levels. As a first step towards achieving this objective, Arab countries are encouraged to develop and revamp truly multisectoral and multi-stakeholder DRR platforms, to act as governance mechanisms for understanding and addressing systemic risks.

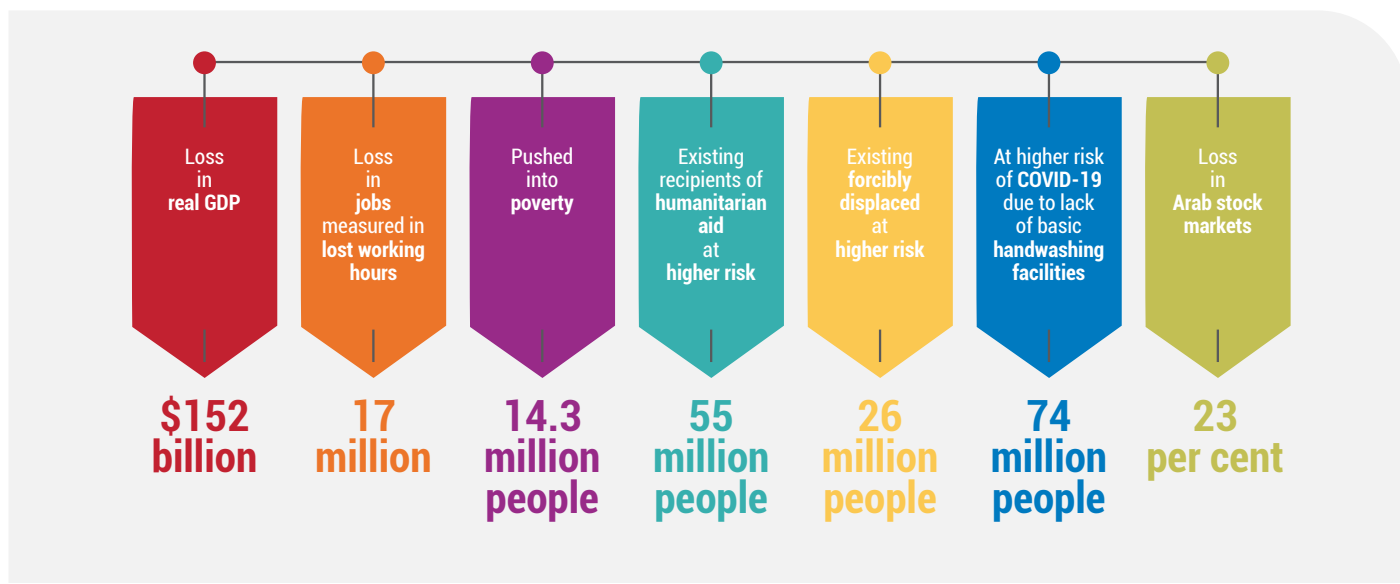
## COVID-19 a textbook case of systemic risks

The COVID-19 epidemic provides a textbook case of how a biological hazard can spread geographically to almost all countries in the world, with large impacts on economic, social and health complex systems, pushing millions of people back into poverty, increasing the socioeconomic vulnerabilities of several regions, limiting access to education to millions of children for whom online classes are not an option, and heavily disrupting the informal economic sector that employs a large portion of the vulnerable working population in developing countries, exacerbating unemployment and poverty.

The COVID-19 pandemic in the Arab region has shown the complex interactions between different biological, technological, health, social, and economic sectors. In a matter of days, all 22 countries had reported cases, leading

to protective measures in the form of closing public places, schools and even borders. The closure of the tourism sector has had a large impact on the employment and livelihoods of various vulnerable groups. Furthermore, the expected decrease in remittances from people living abroad in some countries can account for up to 6 per cent of the country's gross domestic product (GDP). The COVID-19 pandemic has exacerbated existing regional vulnerabilities in a multitude of ways, including through pushing an additional 14 million people into poverty, thereby showing the urgency for Arab countries to prioritize investments in social vulnerability reduction, including mitigating the root causes of social vulnerability. Furthermore, Arab countries are encouraged to improve the resilience of their health systems by addressing redundancy, inclusivity and quality service-delivery challenges.

Figure 1. Estimated impact of the Coronavirus pandemic in the Arab region



Source: ESCWA calculations and estimates (all figures are of July 2020 and likely to increase as pandemic evolves).

Arab countries are also encouraged to steer their recovery efforts and plans towards attaining the 2030 Agenda for Sustainable Development. To this end, there is a need to ensure COVID-19 recovery plans, including measures for reducing the factors contributing to social vulnerability, include DRR considerations and address biological and health hazards as part of wider systemic risks. By updating existing and developing new national and local DRR strategies to incorporate systemic risks, and integrating DRR in national planning and financing processes, Arab countries can bridge the short-term (2020), medium-term (2021–2022) and the long-term (2023–2030) recovery measures (based on build back better) against a background of shrinking public resources due to COVID-19.

## Disaggregated data, data for the science policy interface

The SFDRR emphasizes risk-informed decision-making through open disaggregated data sharing for gender, age, income level, displacement status and disability. Disaggregated data along socio-economic considerations are also important to ensure coherence with sustainable development, climate change adaptation, inclusive urbanism and conflict mitigation.

However, there is a lack of readily available disaggregated data in national and regional statistical databases, damage and loss databases and research by governments and/or international organizations in the Arab region, including on the specific concerns of priority groups of people, highlighted by the SFDRR. There is almost no data available on the intersection between disaster and conflict in relation to displacement, despite the fact disaster displacements often unfold in locations where displacement from conflict is already occurring. To date, there is also no regional data that explores the relationship between slow-onset natural hazards and displacement. National statistical organizations are not sufficiently engaged in data collation and sharing for DRM and DRR frameworks. The urban risk profile across cities in the region is incomplete due to limited data, which may lead to an underestimation of urban risk.

This often leads to strategies, policies, plans and programmes being inadequately informed by the specific priorities and differential needs of women, children, youth, persons with disability, older persons, indigenous persons and migrants. To complicate matters further, data collection in disasters in fragile and conflict settings is inhibited by

weak government capacity to operate evidence-based preparedness systems for intersecting risks and stresses. This undermines the potential to predict, and when possible, prevent disaster, thereby impeding protection of the most vulnerable populations.

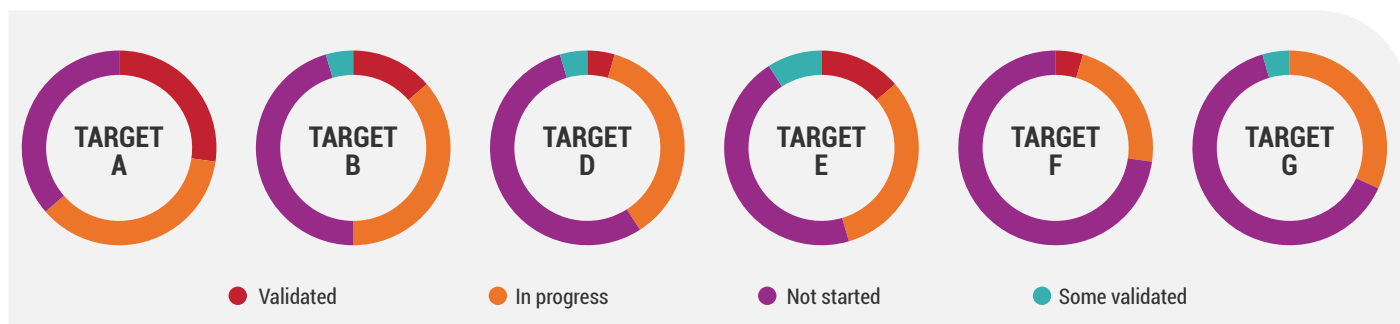
Arab countries are encouraged to promptly address the scarcity of disaggregated data by (i) adopting a coherent and integrated approach for data collection, collation, analysis and use across administrative (regional, national, local and community), sectoral and international framework levels; (ii) strengthening data management, dissemination and sharing among stakeholders, including civil society organizations (CSOs), the private sector and communities, including through proper legislations and delineation of the roles of national statistics offices and research centres, among others; (iii) promoting the use of interoperable information to facilitate data entry and analysis, including bottom-up approaches to improve data resolution and disaggregated data; (iv) encouraging data innovations by the science and technology community, such as mainstreaming integration of geospatial information and citizen-generated data and investing in the physical infrastructure of the information technology sector; (v) building capacities in cartography and the use of geospatial automated models for remote data collection, such as remote sensing data, climate data, agricultural and population statistics and aligning regional targets and indicators; (vi) building capacities of national statistics agencies for generating disaggregated data to be used across DRR, development and climate change interventions; and (vii) building the capacities of national and local governments, and other development stakeholders, on the use of disaggregated data for informing the science-policy interface at all levels.

It is only through addressing the gap in disaggregated data that Arab countries will be able to: strengthen the science-policy interface for decision-making processes; ensure that development policies and practices are better aligned with the results of contextualized analysis and needs; enhance the efficiency of investments allocated for individual and multi-hazard prevention and mitigation projects, and the development of sustainable infrastructure systems; and help develop realistic, contextualized policies that ensure no one is left behind, while endeavouring to reach the furthest behind first.

## DRR state of play

The RAR-Arab States is informed by the latest data, including the Sendai Framework target reporting by Arab countries using the Sendai Framework Monitor (SFM). While the observed period is still too short to draw definitive conclusions at the regional level, it is possible to identify patterns in participation in the monitoring process, more challenging targets for reporting, and relative successes in reducing risks. In reviewing progress, SFM, DesInventar<sup>1</sup> and Emergency Events Database (EM-DAT) resources are used as only 10 countries have provided national disaster loss data, albeit intermittently.

Figure 2. Target reporting from Arab States



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

Unlike the global average, the Arab region reports an increase in economic losses and disruption to basic services in the decade 2009–2018 compared with the decade 2005–2014. For the same two decades, the Arab region reports a relative decrease in the number of deaths and people affected by disasters in comparison to the world average, probably due to practices in disaster loss collation that focus on reimbursing eligible populations directly affected by disasters

<sup>1</sup> DesInventar Sendai is a new version of the software that implements all the indicators and data required to monitor targets A to D of the Sendai Framework for Disaster Risk Reduction, which correspond to parallel Sustainable Development Goals (SDGs) indicators from goals 1, 11 and 13.



and do not collate numbers based on the UNDRR scope of affected – as reported by various regional progress review reports. Furthermore, this figure does not account for war-related fatalities and affected people.

Sendai Framework Target A – Mortality relative to population size shows a 275 per cent increase in fatalities due to natural hazard events between 2006–2015 compared with 1990–1999. Reports from EM-DAT show that drought caused the most deaths (189,623 or 90.3 per cent) in the period 1970–2020.

Target B – Multi-hazard events affected more than 150 million people in the period 1970–2020, according to EM-DAT. More than 120 million people in the Arab region were affected by droughts; other hazard events that affected populations included floods, storms, earthquakes, volcanic activity, landslides, wildfires and mass movement. Severe inequalities persist between low- and lower-middle-income population groups, and upper-middle-income and high-income groups, with the former (particularly low-income groups) bearing the largest proportion of affected people.

Target C – Drought losses amounted to \$29.742 billion over the past 50 years, three times the reported losses for either flooding or earthquakes in the Arab region. Furthermore, economic losses are skewed in favour of storm and drought damages, which represent 55 per cent of recorded occurrences. The \$34.846 billion in losses recorded within EM-DAT over the period 1970–2020 for low-income countries, constituting 59 per cent of total losses, is a fraction of the real total.

Target D – Arab countries need to immediately focus efforts on collating damage to critical infrastructure and public services as such data does not currently exist.

Target E – The number of countries reporting on national DRR strategies is slowly increasing. Upon closer examination, priority 1 of the SFDRR has been easier to align in the region, with the main gaps remaining in addressing priorities 3 and 4. Little progress is observed in achieving policy coherence in DRR, having mechanisms for follow-up, and strengthening economic, social, health and environmental resilience.

Target F – As globally, data available for tracking overseas development aid and DRR expenditure, in order to fully account for these, remain incomplete at the regional level.

Target G – Preliminary reporting on multi-hazard early-warning system practices shows reporting for Target G has been a challenge for most Arab States, particularly those in fragile contexts. This indicates that the four elements of people-centred multi-hazard early-warning systems (PCMHEWS) – namely (i) multi-hazard risk assessments and monitoring, (ii) monitoring and forecasting, (iii) dissemination and communication reaching wide coverage, and (iv) preparedness to respond and response plans – even when they have been developed at national/city level, are not sufficiently linked to act as a functioning PCMHEWS.

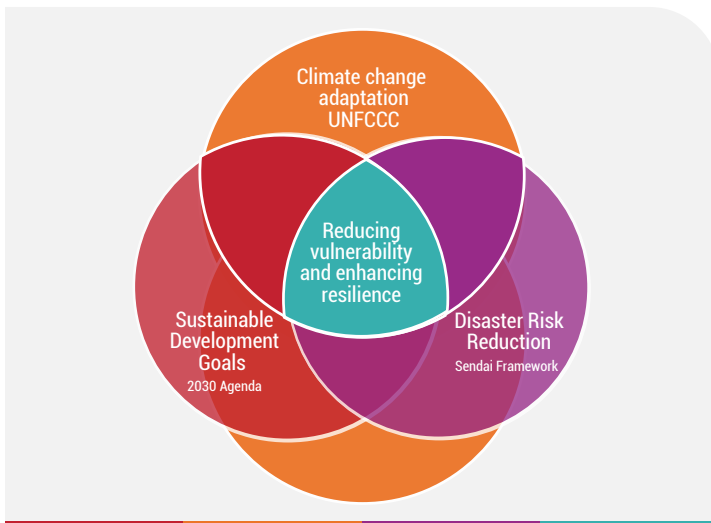
Greater effort is required to improve disaster loss collation practices in a holistic manner to link disaster losses and damages to broader climate change impact and sustainable development gains, threats and opportunities at all scales. Immediate and focused action is required to improve SFM reporting and monitoring across all targets.

## **Entry points for strengthening coherence and integration in financing and implementation to address the wide financing gap**

The United Nations General Assembly DRR resolution A/RES/74/218 of December 2019 encourages increased investments in DRR and calls on all stakeholders to produce comprehensive financing strategies in support of national and local DRR strategies. It also encourages States to allocate increased domestic resources to DRR, and to include DRR in budgeting and financial planning across all relevant sectors. Furthermore, the inter-governmentally agreed conclusions and recommendations of the Economic and Social Council Financing for Development (FfD) Forum highlight the role of the private sector and private finance in achieving the SDGs, as well as in the immediate response to and the longer term recovery from the COVID-19 pandemic. The FfD Forum recommends the development of DRR financing strategies and financial instruments, which are essential for improving the preparedness to future shocks.

Regionally, the Arab States need a minimum of \$230 billion annually to support the achievement of the SDGs. The financing gap in Arab countries is estimated at more than \$100 billion annually, with a cumulative total of more than \$1.5 trillion through to 2030. The interconnected nature of systemic risks facing the Arab region, coupled with the large financing gap for sustainable development, necessitates an integrated climate change adaptation, DRR and sustainable development approach to address the above risks.

Figure 3. Alignment of the three 2015 agendas for reducing vulnerability and building resilience



Source: UNFCCC, 2017.

Arab States are enhancing coherence efforts at regional level through multi-partner platforms, including the SDG Climate Facility Project, focusing on entry points for mainstreaming climate risk management into efforts to achieve the SDGs, and catalysing innovative climate finance opportunities. Other steps include the Regional Climate Risk Nexus Initiative that aims to enhance partnerships between the League of Arab States, the UNDP, UNDRR, WFP and other United Nations agencies. In addition, the Arab Partnership for DRR meetings, organized by the UNDRR, facilitate regular discussion on innovative solutions for climate risk management and DRR integration in the SDGs towards achieving coherent implementation of the post-2015 global agendas and the Arab Strategy for DRR 2030. Discussions during these meetings also aim to inform the deliberations of the Arab Regional Platforms for DRR. Regional initiatives are also focusing on increasing access to and the use of advanced technologies to address gaps in the development and use of data, information and knowledge in order to improve the science-policy interface necessary for coherent implementation.

At the national level, Arab countries are piloting projects to improve integration through (i) coherent implementation of frameworks using the human security approach for reducing shocks and stresses; (ii) ecosystem management using a bottom-up and top-down whole-of-society approach that engages vulnerable local communities to enhance their resilience while protecting the ecosystems on which their livelihoods depend; (iii) using climate change adaptation plans as an inclusive planning instrument to ensure and enhance integration with SFDRR and SDG policies and plans; (iv) enhancing capacities for coherence, integration and financing at all levels.

To mainstream the benefits and lessons from these initiatives, Arab countries must make greater efforts to address the key challenges to increasing investments in disaster risk prevention and mitigation, through national, local and sectoral budgets. Such efforts include building the currently inadequate capacities and skills required for financing the mainstreaming of DRM and climate change adaptation considerations into sustainable development in an institutionalized manner, backed by legislation, and with the involvement of all stakeholders, including the private sector and vulnerable communities. Capacities and mechanisms must be built for carrying out cost-benefit analysis for DRR, including the management of systemic risks, at all levels. To this end, efforts must be directed at generating risk-disaggregated information and understanding the emerging vulnerability of environmental, health, financial, economic and social systems to cascading and systemic risks. Only then will Arab countries be able to embark on coherent and integrated financing and implementation of resilient sustainable development that accounts for climate change and disaster risk.

## Vulnerable groups, leaving no one behind and endeavouring to reach the furthest behind first

Poverty and inequality, exacerbated by environmental crises and distress migration, are framed by age, sex/gender, economic, ethnic/racial, nationality and immigration status, health/well-being, and sectoral, occupational, and spatial

locations. These interacting vulnerabilities also interface with socially mediated agency at one end of a continuum of negative survival strategies. This **RAR-Arab States** addresses the structural drivers of vulnerability to climate change and disaster risks for the priority groups that are highlighted in the SFDRR, and the Paris Agreement, namely women, children, youth, persons with disability, older persons, indigenous persons and migrants.

Arab countries rank last worldwide in the World Economic Forum's Gender Gap Report. Women and girls bear disproportionate impacts of climate change and disaster risks relative to men and boys, anchored in gender role and trait stereotypes and gender relations weighted against them. Women's location at the lower ends of value chains in agriculture, manufacturing and other sectors, and disproportionate marginalization from material and non-material resources, diminishes their climate-disaster risk-migration resilience relative to men. Women, however, are not just vulnerable victims. Women's specialized local knowledge of ecosystems can effectively reduce sensitivity to climate and related hazards by contributing to biodiversity protection, community resilience and effective adaptation.

Amid widespread crises and disasters, youth and children development indicators related to protection, education, employment, health and nutrition show a deterioration in outcomes. For example, as women undertook paid work in affected disaster contexts, girls particularly took on more domestic work and were left on their own more often, placing them at increased risk of violence. Protracted drought and conflict often put children in the region at risk of abduction, abandonment and violence, including sexual violence.

Normal-time poverty, physical decline, age discrimination and inadequate services impact on older people in distinct ways in disasters. There is a lack of comprehensive data for the Arab region but data for other countries show a disproportionate number of disaster casualties among older persons, and persons with disabilities, especially women. Deficits in age-sensitive disaster risk reduction planning and action are contributory factors. Early warning, information dissemination and evacuation planning often exclude the needs of elderly people. However, older people, as survivors of previous disasters, as traditional knowledge-holders, as caregivers, among other roles, make crucial socioeconomic contributions, including in crises.

The Arab region is largely inaccessible for persons with disabilities – be they physical, mental, cognitive or sensory – despite notable initiatives. Given acute data deficits, qualitative evidence highlights the priorities of persons with disabilities in climate crises and migration. Early warning systems, evacuation planning, damage/needs assessments and reconstruction efforts exclude their needs and are seldom disability sensitive, while high poverty rates limit their ability to prepare for disasters. These exclusions have the potential to increase abuse, mortality and morbidity rates for persons with disabilities.

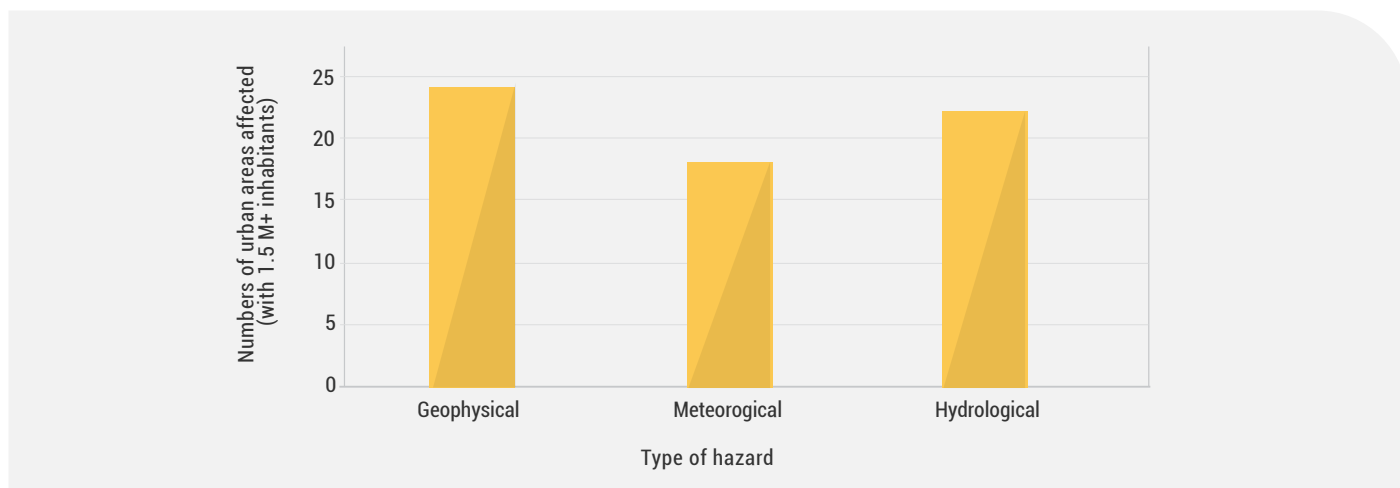
Migration impacts vary for different segments of migrants and those left behind. Traffickers have intentional strategies and gendered profiles of poor men and women, scouring climate-disaster sensitive and underdeveloped source migrant sites for "clients". Women have no assets or fewer assets than men to pay for migration costs and tend to move and pay later, falling more easily into debt bondage. There are fewer legal, decent jobs for women in destination sites. However, good migration governance across the migration cycle, coupled with gender-responsive sustainable development, can enhance the resilience of women migrant workers and women from male-migrant households who remain in countries of origin, their families and communities.

The aforementioned groups and their priorities and capacities are often excluded from policies, programmes and budgets, leaving them further behind. For Arab countries to transcend this situation and embark on a development path that leaves no one behind and endeavours to reach the furthest behind first, effort should be directed at (a) producing data, disaggregated by age, sex/gender, economic, health, ethnic, nationality and immigration status, on the structural drivers and impacts of DRR, climate change and migration; (b) building leadership of SFDRR-prioritized vulnerable populations and ensuring their sustained representation on decision-making and implementation mechanisms for climate mitigation and adaptation, reduction of risk and vulnerability to disasters, migration and development; (c) engaging vulnerable population groups and wider stakeholders in addressing implementation and accountability deficits to address disaster risk governance and climate change adaptation deficits; (d) adopting a whole of government and society approach that forges collaborative and coordinated action and capacity development, engaging relevant government ministries and departments, and civil society organizations, for amplified impact; (e) drawing on disaggregated data and consultations with SFDRR-prioritized vulnerable populations to review and reform existing policies, laws, plans, budgets on sustainable development, DRR, climate change and migration; (f) investing in well-designed, sustainably financed, scalable community-based pilots that link disaster resilience, climate change, sustainable development and migration and the specific priorities of SFDRR-prioritized vulnerable groups.

## Rapid urbanization, informal settlements, urban inequality and social cohesion

The population of the Arab region has grown at exponential rates over the past 40 years. Generally, the region will continue to witness a major and rapid increase in urbanization in the next few decades, whereby more than three quarters of the Arab population will be living in cities by 2050. The rapid pace of urbanization is underpinned by several factors, including continued population growth, economic transformation and increased encroachment on agricultural land, as well as rural-urban and international migration.

*Figure 4. Number of urban areas (with population exceeding 1.5 million inhabitants) exposed to hazards*



Source: UN DESA, 2018.

The spread of informal settlements in the Arab region has become a clear manifestation of inequalities in cities. The vulnerability of dwellers in informal settlements is associated with several factors, including socioeconomic inequalities and marginalization, urban poverty, poor building standards, location in unsafe areas, exposure to environmental hazards, vulnerability to climatic shocks and stresses, and limited access to basic services. Moreover, a large number of internally displaced persons find refuge in informal settlements in urban areas as an alternative to unaffordable formal housing. The outbreak of COVID-19 has highlighted the entrenched inequalities in the region and exposed the vulnerability of the informal settlement dwellers to compounded health risks, as informal areas in the region are largely characterized by high population densities, overcrowding and poor access to adequate water and sanitation services.

Concentrated urbanization and socioeconomic development patterns in areas prone to climatic shocks and stresses make the Arab cities among the world's most vulnerable to the effects of climate change, including (i) sea-level rise threatening coastal communities, (ii) urban areas and settlements located in flood-prone areas, (iii) exacerbated extreme weather events, (iv) water scarcity and extreme drought, and (v) increased temperature levels and exacerbated frequency of extreme heat waves, where changes in land surfaces caused by urban development, land use and concentration of human activities have resulted in so-called urban heat island effects. Unaddressed and unmitigated, these emerging vulnerabilities will further exacerbate inequalities and further erode state-society trust and fragile social cohesion in a region already characterized by fragility and conflicts.

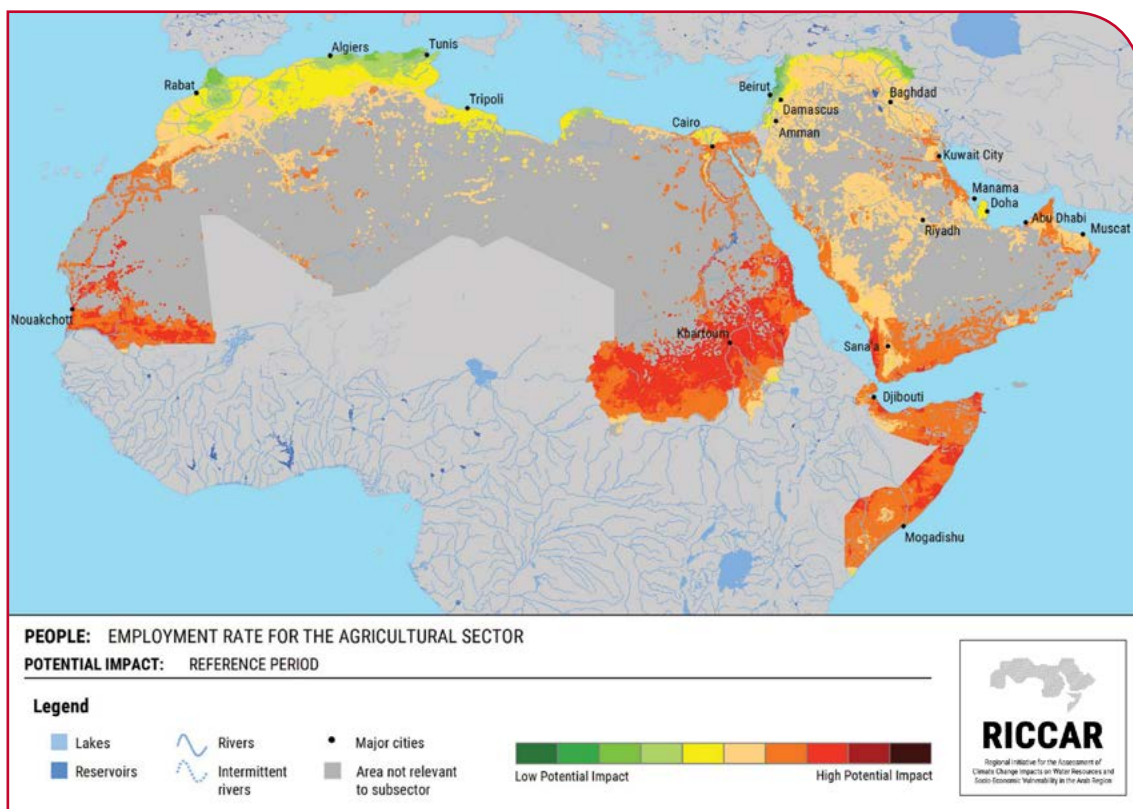
Addressing inequalities is increasingly becoming central to building urban resilience to conflict, climate change and disaster risk in the Arab region. For local and national governments to sustainably enhance urban resilience, immediate and focused action is required to improve informal and formal governance arrangements and institutions, and to increase financing for inclusive, resilient infrastructure. This includes: enhancing fiscal autonomy and capacities at the local level; creating the conditions for private sector participation in building resilient infrastructure and addressing the financing gap; adopting local risk governance mechanisms that promote accountability and inclusiveness; downscaling local resilience and sustainable development through multiscale and multilevel holistic approaches; building capacities for local level risk diagnostics, resilience planning and implementation, including through participating in initiatives such as the Making Cities Resilient 2030 Programme that delivers a clear three-stage roadmap to urban resilience; and promoting inclusive participation of vulnerable groups in spatial planning and local resilience building plans.

## Rural and agricultural risks and food insecurity amid water scarcity

The Arab region is one of the most water scarce in the world. In total, 18 of the 22 Arab States fall below the annual threshold for renewable water resources of 1,000m<sup>3</sup> per capita and 13 States fall below the annual absolute water scarcity threshold of 500m<sup>3</sup> per capita. Furthermore, for many countries in the region, annual freshwater withdrawals exceed total renewable water resources. High subsidies for water and fuel (up to two thirds of the supply cost) have contributed to the overuse of scarce water resources. By 2030, climate change is likely to reduce renewable water sources by 20 per cent due to lower rainfall, more water demand as temperatures rise, and seawater entering coastal aquifers from rising sea levels.

Most of the Arab poor live in climate-sensitive rural areas. Agriculture constitutes 7 per cent of regional GDP, employing 38 per cent of the people, and is 23 per cent of GDP in Arab least developed countries, employing from 35 to 72 per cent of people. However, the creation of new rural and agricultural risks is highly dependent on development choices, particularly in a water-scarce region where two thirds of the water originates from outside the region. On average, 80 per cent of extracted water in Arab countries is used in the agricultural sector. Agricultural strategies have not raised productivity or resilience to desertification. Infrastructure deficits, poor investment in agricultural technology, inefficient irrigation and drought-resistant seeds amplify the problem. These prevailing practices threaten freshwater ecosystems, increase agropollution and soil salinity, and exacerbate socioeconomic vulnerability due to loss of biodiversity, while also worsening the conditions for desertification and land degradation processes. This in turn accentuates droughts, desertification, dust storms, heat waves, and floods, all of which increase the vulnerability of the rural poor. Finally, agricultural production patterns could further change, reducing regional agricultural output by 21 per cent by 2080, threatening livestock production, forests, wetlands, and agricultural employment.

Figure 5. Employment rate for agricultural sector (1986–2005)



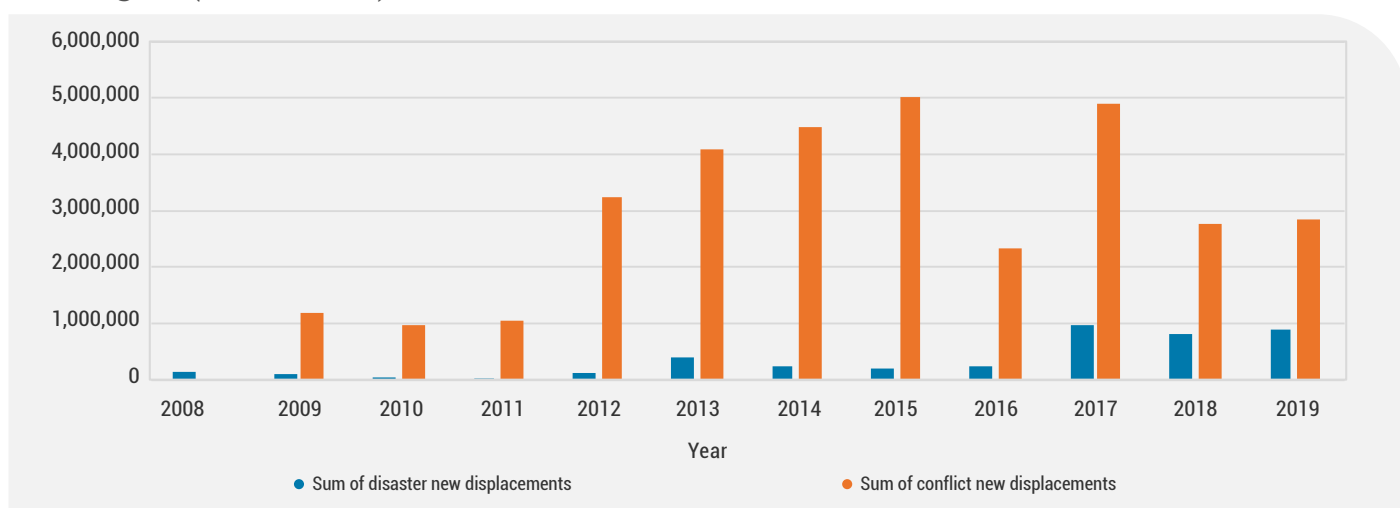
Source: UNESCWA and others, 2017b.

For Arab countries to mitigate rural poverty, water and food insecurity, and environmental degradation, a new approach is required that address these threats in parallel as part of wider integrated efforts for building sustainable development at the rural level, in coherence with climate change mitigation and adaptation plans, and disaster risk reduction strategies and plans.

## Climate change-disaster-conflict-displacement nexus

In the past five years, 40 per cent of Arab countries have had some type of armed conflict that has undermined development gains and increased the vulnerability of the population to disaster risk. Conflict and natural hazard events displaced 2,566,000 and 631,000 people respectively in the Middle East and North Africa region, comprising 9.6 per cent of the global total. In 2019 alone, more than 800,000 new displacements due to disasters were recorded in the region. There are 38.1 million migrants and refugees in the Arab region. The past 15 years show a clear link between climate change, disasters and migration, underscored by investment deficits in resilient development. Where direct causal links between climate change, disaster risks and migration are not obvious, migration may still be mediated by declining social and economic conditions intertwined with poor ecological conditions and longer onset disasters, demanding attention to the need for sustainable development.

*Figure 6. New displacements triggered by conflict, violence, and disasters across the Arab region (2009–2019)*



Source: IDMC, 2020b.

Displacement can result in a variety of additional risks for individuals who are displaced, as well as for all other communities affected by their movement. This can include reductions in access to resources, opportunities and services, and increased exposure to hazards, violence and abuse. In addition to being a symptom of disasters, displacement remains a driver of disaster risk. It often reduces available resources and assets, increasing the risk of impoverishment, abuse, and exacerbating pre-existing vulnerabilities.

Displacement, be it internal, cross-border (refugees and asylum seekers), or voluntary (migrants), continues to be perceived in negative terms. While forced migration does put a burden on host communities, local economies and national governments, the opportunities it provides in many areas of development are not sufficiently recognized or acknowledged. This contributes to increasing both the risk and the impacts of disasters, particularly on vulnerable displaced groups.

In the Arab region and globally, reducing disaster risk for displacement-affected populations requires systematic analysis and management of the causal factors of disaster. This includes efforts to reduce exposure to hazards and the vulnerabilities of people and property, and to increase preparedness for disaster risk as part of a greater focus on conflict mitigation, climate change adaptation and sustainable development. The 2019 Global Assessment Report (GAR19) identified critical aspects to be considered to address DRR challenges in conflict settings, while this RAR-Arab States identifies entry points for improving coherence between DRR and conflict mitigation strategies, including through (i) integration of displacement in DRR strategies at all levels; (ii) mainstreaming DRR into ongoing humanitarian, development and post-crisis early recovery programming; (iii) enhancing collaboration between DRR, humanitarian and peacebuilding actors; (iv) promoting joint frameworks combining humanitarian and recovery actors for better coordination and joint planning and programming; and (v) building integrated and localized analysis tools for humanitarian development and peace nexus actors.

## **Climate change and chronic inequalities against a background of non-sustainable consumption and production patterns**

Nonlinear change in hazard intensity and frequency is already a reality in the region. Affecting the extensive nature of risk that disproportionately affects vulnerable groups, climate change then increases the vulnerability of these groups to more frequent and stronger intensive risks, including strong storms, coastal flooding, longer and more frequent droughts, and more extreme temperatures. This will increase inequalities and fragility in a region already characterized by fragility and suffering from conflict.

Regional per capita emissions of carbon dioxide are increasing and were similar to the 2013 global average before the COVID-19 pandemic. The region is the largest producer of fossil fuels, a vital contributor to regional economic growth. Other regional economic and environmental indicators clearly point to non-sustainable production and consumption patterns. These indicators include per capita energy consumption, energy intensity, renewable energy share of the market, underground aquifer depletion, municipal waste generation, recycling and reuse, and hazardous waste collection and treatment.

These non-sustainable production and consumption patterns challenge food security – most Arab countries are net importers of food supplies – and create economic dependence on oil exports that are subject to high volatility. They also promote an unsustainable development paradigm that brings with it the creation of new risks. Continuing on a path of unsustainable development will lead to higher inequality, where risk-benefit trade-offs will only serve the few for the short term.

For Arab countries to embark on a sustainable development path, they will need to promptly modify non-sustainable consumption and production patterns, which requires a value change in addition to expanding people's capabilities and their agency. This includes (i) raising awareness and investing in education to help shift social norms and unleash society-wide transformations geared towards an approach to sustainable development that combines equity, innovation and stewardship of the planet; (ii) developing and implementing incentives and regulations in finance and prices to ensure resources are directed towards investments that reduce planetary pressures, and that prices better capture social and environmental costs of investment choices; (iii) investing, piloting and scaling up bottom-up, nature-based human development that is locally driven and can have cumulative impacts at the regional and global levels; and (iv) in line with state-of-the-art practices emerging from the latest Human Development Report 2020, collating planetary pressure-adjusted human development indices to inform the science-development-policy interface.

### **Effecting a paradigm shift requires capabilities, agency and a value change**

GAR19 recognized important paradigms with critical impacts on DRR and resilience building efforts, namely the linear constructs of the extraction-production-distribution-consumption-disposal linear process of resource use in the current economic paradigm. It then highlighted the systemic nature of risk, enshrined in the 2015 agreements on climate change, sustainable development and DRR, calling for a paradigm shift to adopt systems-based approaches and work in new ways to collaboratively reduce the creation of new risks and manage existing ones. It highlighted the need for a new paradigm for understanding and living with uncertainty and complexity. Importantly, it reminded us that disasters are not natural, but a product of the interaction of often naturally occurring events and human agency. Finally, GAR19 reiterated that paradigms are not corrigible by normal science and that paradigm change is a value change.

Similarly, the Human Development Report 2020 (The Next Frontier – Human Development and the Anthropocene), highlighted the three critical dimensions of human development, namely capabilities, agency and values, with special attention to our interactions with nature, to our stewardship of the planet.

In line with the above, RAR-Arab States argues that for the Arab region facing a multitude of systemic risks – and against a background of inequality, vulnerability and fragility, non-sustainable consumption and production patterns, and conflict – to move forward on a path of resilient, inclusive sustainable development while managing and mitigating systemic risks, it must clearly and promptly address the above three dimensions of human development.





**RVR**