

# Building regional coherence between the three international agendas: climate change, disaster risk reduction and sustainable development

## 3.



### A. Introduction

The impacts of climate change on people's livelihoods will hinder efforts to reduce poverty, or even exacerbate poverty in some or all of its dimensions. Changes in the biophysical environment, such as droughts, flooding, water quality and degraded ecosystems, are expected to threaten opportunities to generate income, which in turn will likely increase economic and social vulnerability of households and communities, especially among the poorest.<sup>175</sup> The effect on communities and households will vary among social-ecological systems.<sup>176</sup> The three primary documents of the post-2015 agenda, namely the Sendai Framework, 2030 Agenda and the Paris Agreement, call for strengthened coherence and linkages in the design and implementation of their strategies, policies, programmes and projects.<sup>177</sup> Building resilience, therefore, focuses on the opportunities and challenges of implementing the three agendas collaboratively to support integration, including financing at country level (figure 3.1).

175 IPCC, 2012b.

176 De Souza and others, 2015.

177 Murray and others, 2017.

Figure 3.1 Alignment of the three 2015 agendas for reducing vulnerability and building resilience



Source: UNFCCC, 2017.

## Lobbying for financial integration

The United Nations is coordinating the efforts of the Special Envoy on financing the 2030 Agenda for Sustainable Development, the Special Envoy for Climate Action and Finance, the United Nations Department of Economic and Social Affairs (UN DESA), and other relevant United Nations agencies and departments. Paragraph 28 of the General Assembly resolution of December 2019 on disaster risk reduction encourages increased investment, including in resilient infrastructure. It calls on all stakeholders to assist developing countries in producing comprehensive DRR financing strategies supporting national and local DRR strategies, promote investments in resilience and prevention, and explore the development of tailored financing mechanisms, including forecast-based approaches and disaster risk insurance mechanisms. Paragraph 29 of the resolution also encourages States to allocate increased domestic resources to DRR, including resilient infrastructure, consider DRR in budgeting and financial planning across all relevant sectors, and ensure that national financing frameworks and infrastructure plans are risk-informed, according to national plans and policies.<sup>178</sup> The intergovernmental-agreed conclusions and recommendations of the Economic and Social Council (ECOSOC) Forum on Financing for Development (FfD Forum) recognizes that the private sector and private finance can play a major role in achieving the SDGs, and in the immediate response to the COVID-19 pandemic and longer term recovery. The FfD Forum recommends the development of DRR financing strategies and financial instruments as essential to improving preparedness for future shocks.<sup>179</sup>

This chapter reviews regional opportunities for strengthening the alignment of the three global agendas, by examining their common objectives, identifying synergies and entry points for integration of activities. This will help regional efforts for coherent resilience building in order to achieve sustainable development that leaves no one behind and endeavours to reach the furthest behind first.

## B. Climate change hotspots in the Arab region

The three types of climate change hotspots<sup>180</sup> – defined as a combination of areas where climate change signals overlap with vulnerable communities, affecting socioeconomic development – include densely populated deltas and semi-arid

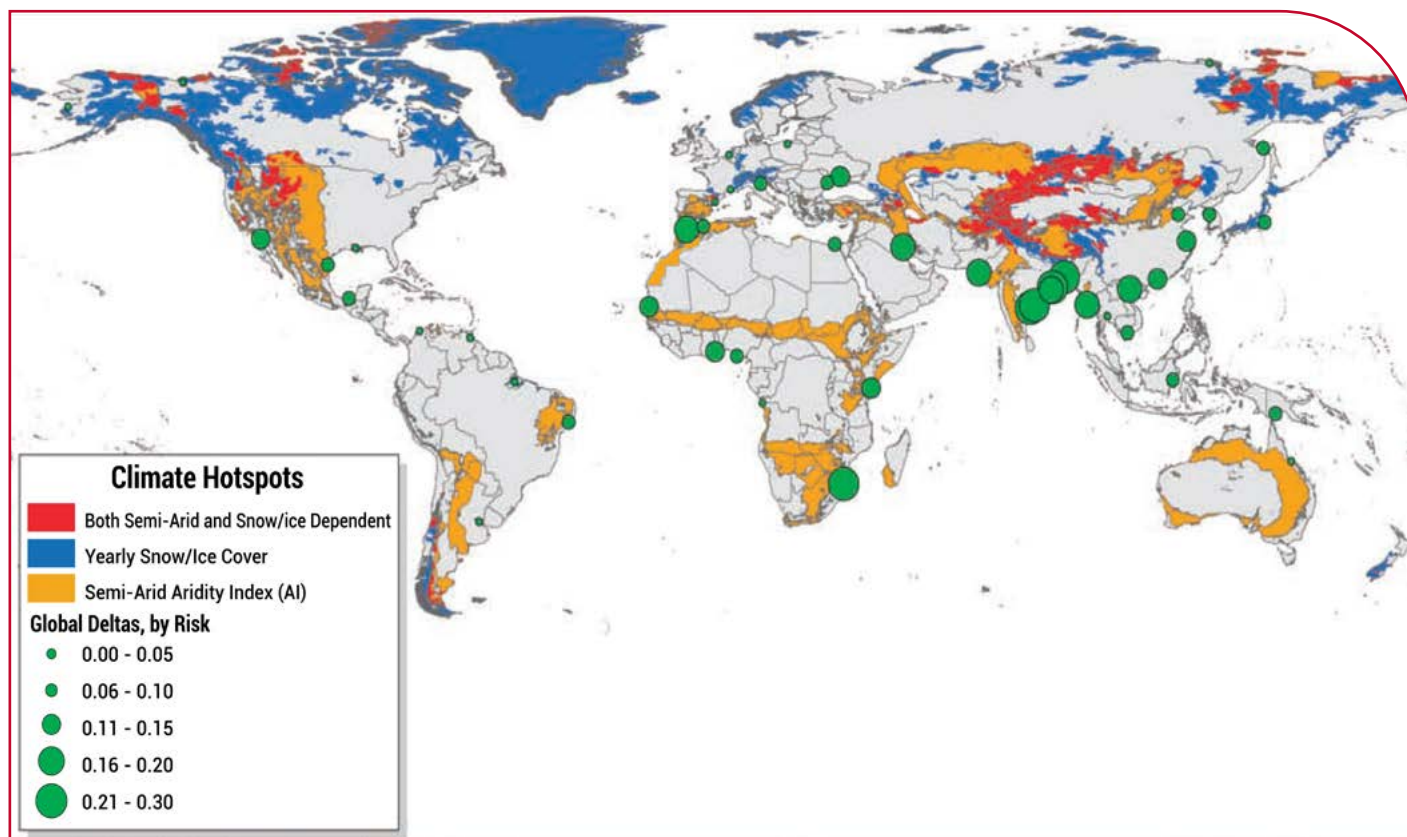
178 United Nations, General Assembly, 2019.

179 United Nations, Economic and Social Council, 2020.

180 The climate hotspots used in the proposed multiscale SDG framework include: (i) major global delta locations (green dots), varied according to contemporary risk due to sea-level rise and anthropomorphic factors; (ii) semi-arid regions (orange) where aridity index (AI) falls between 0.2 and 0.5; (iii) snow and ice run-off-dependent basins (blue), defined as basins with average yearly snow/ice cover  $\geq 25\%$ ; (iv) overlapping areas with both semi-arid AI and snow/ice run-off dependency (red).

regions and cover a large portion of the world, including the Arab region (figure 3.2).<sup>181</sup> These hotspots generally cut across administrative boundaries with limited political representation. As a result, they are not often a focus of direct policy action, with implications for sustainable development and welfare of local populations.

Figure 3.2 Climate change hotspots requiring attention using SDG indicator framework



Source: Szabo and others, 2016.

Note: The designations employed and the presentation of material on this map do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries.

Given the importance of climate hotspots to societal and ecological well-being, failing to adequately monitor the environment of these regions may impede their developmental progress, and hinder achievement of wider SDGs. It is also likely to impede SDG accountability, which requires monitoring at global, regional, national, and local levels. The choice of critical environmental indicators will reflect the climate and environmental priorities for 2030, with direct implications for financing for development.<sup>182</sup> Synergies in the monitoring of the international frameworks thus has increased importance.<sup>183</sup>

Human development challenges in climate hotspots is addressed by SDG 13, which seeks “urgent action to combat climate change and its impacts”. Targets and indicators relevant to climate change are included under other SDGs, covering different social and economic dimensions. One way to address the scarcity in disaggregated data at regional, national and local levels is to transform the global agreements into an integrated multiscale indicator framework that would reflect the significant developmental challenges in these hotspots in the region, and allow change to be monitored at different levels of analysis, including for cross-boundary regions (figure 3.3).<sup>184</sup>

181 Szabo and others, 2016.

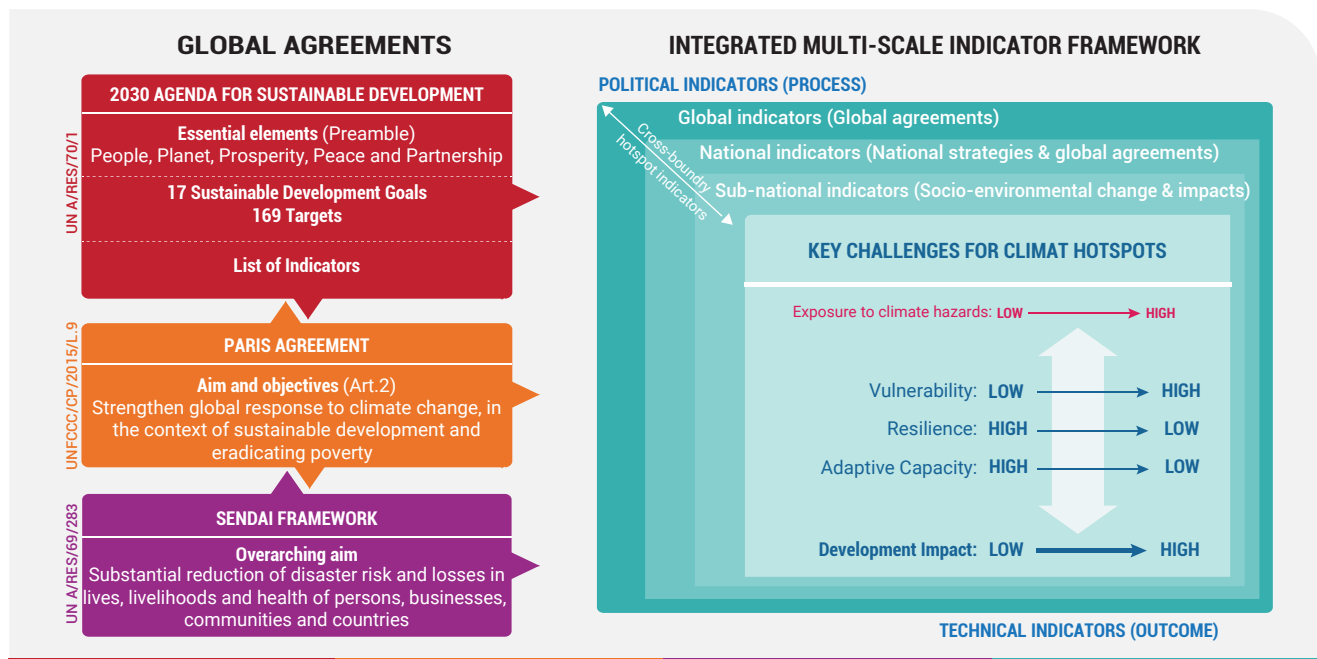
182 Ibid.

183 United Nations, General Assembly, 2017.

184 Ibid.



Figure 3.3 Proposed SDGs framework for climate hotspots that aligns 2030 Agenda, Paris Agreement and Sendai Framework



Source: Szabo and others, 2016.

## C. Taking the next steps: integrated development planning at regional level

The existing fragility in the Arab region, shaped by linked challenges of water scarcity, food insecurity, population growth, social vulnerability, rapid urbanization, low resilience and increased conflicts, is exacerbated by climate change. The situation requires an integrated CCA, DRR and sustainable development approach. Opportunities for integrating climate change adaptation with SDGs and the Sendai Framework may be categorized under the key recommendations of the United Nations Framework Convention on Climate Change (UNFCCC),<sup>185</sup> which focus on the following:<sup>186</sup>

- Coherence and autonomy of frameworks to save money and time, enhance efficiency and enable adaptation action.
- Enhancing resilience and ecosystems as core concepts for motivating integration.
- Building capacity for coherence and coordination will clarify roles and responsibilities and encourage partnerships among a range of actors, including State and non-State, operating across multiple sectors and scales from local to global, which in turn can facilitate policy coherence. Further, vulnerable people and communities can initiate and benefit from bottom-up, locally driven solutions that contribute to multiple simultaneous policy outcomes.
- Building capacity for data management will improve data availability, including climate and socioeconomic data, and resolution and disaggregation, which in turn will inform more coherent policymaking.
- The process of formulating and implementing national adaptation plans can support the implementation of enhanced adaptation action and development of integrated approaches to adaptation, sustainable development and DRR. This is due in part to its demonstrated success as a planning instrument and the resources available for support, and its iterative nature and flexible, nationally driven format.
- Adequate, sustainable support to adaptation efforts from multi-sources, such as public, private, international and national, is crucial. Access to finance and technology development and transfer, and capacity-building support is also critical, particularly in developing countries.

185 UNFCCC, 2017.

186 UNDRR, 2019a.

### Box 3.1 Arab Partnership for DRR Forum

UNDRR has convened biannual meetings of the Arab Partnership for DRR since 2017 to create a forum for technical and operational deliberations on the progress, challenges and gaps in the regional implementation of the Sendai Framework and ASDRR 2030. The Arab Partnership seeks to facilitate discussion on innovative solutions to climate risk management and DRR integration in the SDGs in the region. The aim is to achieve coherent implementation of the post-2015 global agendas and risk-informed sustainable development. These periodic discussions will also inform the deliberations of the Arab regional platforms on DRR.

## 1. Coherence and autonomy of frameworks

The UNFCCC and GAR19 (Global Assessment Report) identify the main entry points for integration of national adaptation plans across SDGs 2, 3, 6, 7, 9, 11, 14 and 15. GAR19 also identified the main entry points for integration of the Sendai Framework and SDGs 1, 11 and 13. DRR actors have, at global and regional levels, advocated for resilience as a cross-cutting aim within the SDGs to be framed more deeply as a development challenge in which both equity and environmental protection are central.

According to a recent assessment of regional strategies undertaken in 2018 by the WFP, AWC and the Sustainable Development and International Cooperation Department (SDIC) of the League of Arab States, most development policymaking in the region is focused on sectoral approaches that do not address complex systemic and cascading risks and challenges. This requires revising strategies to better address the post-2015 agendas, by developing a nexus for coherently integrating risks across natural, economic, health, environmental and social dimensions. Future efforts should aim to delineate the roles and responsibilities of key regional and international actors in developing coherent and integrated strategies, attract funding to carry out these roles and responsibilities, and develop associated monitoring mechanisms to evaluate the progress and impact of current strategies and determine long- and short-term gains.<sup>187</sup>

Clear delineation of the roles and responsibilities of national institutions and stakeholders in implementing DRR and CCA policies and actions would enhance governance practices and institutional systems, build a favourable environment of private-sector engagement, and expedite development of integrated policies, programmes and projects. A legal framework with suitable economic incentives ensures access to sustainable green finance and private sector partnerships under the SDG, CCA and DRR nexus. A first step may be to pilot national stakeholder analysis for DRR and CCA (in an SDG context) in a number of selected countries to identify and strengthen institutional interlinkages and synergies.

### Box 3.2 Tunis Declaration on disaster risk reduction

The Tunis Declaration<sup>a</sup> was adopted at the Africa-Arab Platform on DRR in October 2018. It commits to improving coordination of efforts to accelerate implementation of the Sendai Framework and the ASDRR 2030 at national and local levels, including periodic follow-up and evaluation of progress. The declaration focuses on a multisectoral, all-of-society approach that enhances women and youth leadership and participation, and considers the needs of all vulnerable groups. It seeks to preserve human security, and health and environmental safety, in DRR policies and practices. It also commits to accelerating actions to achieve Target E and enhancing the understanding of disaster risk through disaster loss data collection and analysis, and risk assessment and management.

Through the declaration, Arab States committed to using science and technology to inform decision-making on DRR, including encouraging research and the development of energy efficient technologies to reduce disaster risks that threaten ecosystems. States pledged to implement sustainable development policies that are integrated with DRR strategies and programmes at all levels, as well as integrate CCA and mitigation measures and DRR in policies and practices, including in the field of renewable energy. The declaration called for investment in resilient infrastructure to prevent the emergence of new risk and to seize the opportunity to build back better in reconstruction work in recovery phases.

a UNDRR and League of Arab States (2018).

187 League of Arab States and Arab Water Council, 2018.

### **Box 3.3** *Regional Climate Risk Nexus Initiative*

Recognizing that trade-offs between goals are critical for long-term planning, initiating a nexus approach can help identify a balanced way forward, where optimal outcomes for one target can be achieved while ensuring the best scenarios of potential influence on others. In 2015, the regional Climate Risk Nexus Initiative (CRNI) was launched, supported by the League of Arab States and AGIR, and hosted by the AWC.<sup>a</sup> The CRNI helps achieve greater policy coherence across the goals of climate change, DRR, food and water security, and social vulnerability. It aims to enhance partnerships, including with UNDP, UNDRR and WFP, among other United Nations development agencies. A core goal towards achieving a sustainable resource base and resilient societies is to develop the capacity of the League of Arab States and member States to adopt integrated approaches when addressing climate change, DRR, land degradation, food and water insecurity, and social vulnerability.

Efforts will be made to strengthen regional cooperation and knowledge networks across disciplines, respond to gaps in science and data for managing risks, enhance the use of indicators and early warning systems, build local leadership and capacity for risk reduction and resilience-building, and support the paradigm shift in development policies.

a League of Arab States, 2018.

### **Box 3.4** *Improved coherence through the human security approach, Tunisia and Mauritania*

At local level, achieving coherence between the three global frameworks requires effectively building capacity to carry out multisectoral, multi-hazard inclusive risk assessments, and to develop resilience action plans to ensure ownership and the sustainability of interventions. To improve coherence in realizing the SDGs at city level, UNDRR, partnering with UNDP, adopted the inter-disciplinary human security approach<sup>a</sup> in 10 cities in Tunisia and Mauritania. The project<sup>b</sup> engaged stakeholders, from local and municipal officials to vulnerable communities. Detailed risk assessments conducted in Rosso, Kaedi and Tevragh Zeina in Mauritania, and Gabès and Mateur in Tunisia, identified priorities in risk management and risk reduction for urban environmental, health, social and natural hazard risk. Participatory and inclusive local resilience action plans, developed in partnership with economic development actors and stakeholders, gave municipalities in the five cities ownership of their risk adaptation planning. Further, the project provided local actors with enhanced technical capacity for integrated monitoring and implementation. Plans address environmental, economic, personal, social and health risks, adopting an integrated approach to simultaneously enhance multiple dimensions of sustainable development. The project provided a baseline for identifying risk drivers and addressing them in a manner that enables inclusive and sustainable development.

a UNTFHS articulates the human security approach as multi-hazard, multisectoral bottom-up, people-centred and prevention-oriented, aligned with DRR and promoting community participation in DRR at local/national levels. It recognizes challenges resulting from multiple, cascading risks and interconnectedness of natural hazards and their impact on human insecurities (economic, social, environmental, physical, political). Its adoption strengthens coherence among stakeholders and United Nations entities in their efforts to achieve the SDGs, reduce risk and adapt to climate change. See United Nations Trust Fund for Human Security, 2009.

b UNDRR and UNDP, 2020.

## **2. Resilience and ecosystems are core concepts for integration**

Enhanced integration and coherence of resilience building and ecosystem management efforts can proceed in a bottom-up, top-down whole-of-society approach that will engage vulnerable local communities by protecting the ecosystems on which their livelihoods depend.

### **Box 3.5** *Greater Gabès Oasis destruction, Tunisia*

The Greater Gabès transformation – from fishing and agricultural city, to phosphate treatment and fertilizer centre – while contributing to non-sustainable short-term socioeconomic prosperity, resulted in the depletion and pollution of its oasis, rapid unplanned urbanization and a degraded ecosystem. This led to a generation of new risks, including waterlogging, water diseases and water and soil salinization, as well as increasing people's exposure to pollution and industrial accidents. A risk assessment<sup>a</sup> to identify the impact on the oasis and its biodiversity analysed natural, societal, economic and environmental hazards, and the urban population's vulnerability to them. Twelve types of risks were identified in the five municipalities of Greater Gabès, including oasis destruction. The municipalities prioritized local resilience-building action plans for the short and medium term. These included assessments to understand the exposure of areas, neighbourhoods and oases to risks, and also protecting people and their livelihoods, and the oasis, by proclaiming it a prohibited area for construction, thereby preserving the agricultural wealth and the natural and historical heritage of the community, and preventing the spread of soil moisture and salinization.

a UNDRR and UNDP, 2020.

## **3. Availability, resolution and disaggregation of data and risk information**

In a region facing environmental degradation and scarcity, climate change and political instability, building coherence among the three global agendas requires consideration of the interconnectedness between social, economic and environmental systems during both the risks assessment and the evaluation of development plans. It also needs improved access to advanced technologies to address gaps in the development and use of data, information and knowledge. Closing the gap in disaggregated data would strengthen the science-policy interface for decision-making processes, ensure development policies and practices were better aligned with the results of contextualized analysis and needs, and enhance the efficiency of investments allocated for individual and multi-hazard prevention and mitigation projects and the development of sustainable infrastructure systems.<sup>188</sup> A remaining challenge is generating and developing the data, methods and tools to account for the emerging systemic risks interacting across environmental, health, physical, social and economic systems.

### **Box 3.6** *Linking historical disaster loss databases and RICCAR projected extreme weather indices hotspots and vulnerable areas*

Regional climate models, already developed and tested,<sup>a</sup> provide evidence-based rationales for prioritizing investments in CCA and DRR at locations under national development plans. Data on disaster losses, though they reflect only the historical record, can be employed to analyse trends and complement vulnerability analysis of areas and regions to future climate change impacts using climate modelling projections such as those generated by RICCAR.<sup>b</sup> To demonstrate this, analyses were conducted to test the correlation between RICCAR climate change indices and DesInventar historical events. Six susceptibility/hazard maps for floods, torrents, storms, forest fires, heatwaves and droughts were produced following European Commission and ISO 31010 (international standard) guidelines based on DesInventar data, covering the baseline period (1986–2005) of the current study. These susceptibility/hazard maps showed a dominance of floods, torrents and storms in northern parts of the Arab region, while an obvious dominance of forest fires, heatwaves and droughts was observed in its southern parts. This can be explained by climatic zones, which directly influence the probability, intensity and spatial footprint of the hazards under study.

Vulnerable areas based on RICCAR extreme indices for future projections from 1986 to 2100 were mapped and analysed to investigate climate change indices projection maps with future natural hazard susceptibility. In general, the findings indicate a slight decrease in the percentages of the high susceptibility levels for water-related hazards, such as floods, torrents and storms, in the northern parts of the study area, and an



188 Arab Water Council, "AWC demonstrated some of the maps generated from its 'Arab Geographical Information Room (AGIR)", 2019.

increase in the south. Conversely, a significant increase in the projected percentages of high susceptibility levels for high temperature-related hazards, like forest fires, heatwaves and droughts, was observed. High drought susceptibility may apply to as much as 50 per cent of the study area, which is already prone to drought, by the end of the century. This should be taken into account, especially in the Arab region, where these hotspots are already vulnerable and suffer from varying levels of water scarcity.

The temperature and rainfall extreme indices were tested against weather-related hazards. The results are presented in table 3.1,<sup>c</sup> which shows that all seven extreme climate indices seem to have a correlation with at least one of the hazards, and therefore play a role in determining the occurrence and/or intensity of different hazards. A maximum temperature greater than 40°C (SU40, or very hot days) and consecutive dry days were the most frequent explanatory factors, introduced in three models involving three hazards. Conversely, a rainfall intensity greater than 10 mm a day (introduced only in storms) and maximum temperature greater than 35°C (SU35) were the least explanatory factors.

*Table 3.1 Correlation between extreme climate change indices and weather-related hazards*

Climate change indices	Logistic models	Explains
Consecutive wet days (CWD)	2	Floods, storms
Rainfall intensity greater than 10 mm/day (R10)	1	Storms
Rainfall intensity greater than 20 mm/day (R20)	2	Torrents, droughts
Consecutive dry days (CDD)	3	Torrents, forest fires, droughts
Maximum temperature greater than 35°C (SU35)	1	Heatwaves
Maximum temperature greater than 40°C (SU40)	3	Storms, forest fires, droughts

a UNESCWA, 2017c; UNESCWA and others, 2017a.

b UNESCWA and others, 2017a.

c Ibid.

### **Box 3.7 Regional coordination on water resources management and capacity-building**

During the period 2012–2017, the World Bank and the Global Environment Facility (GEF), collaborating with the United States Agency for International Development (USAID), the National Aeronautics and Space Administration (NASA) and the AWC, implemented “the Regional Coordination on Improved Water resources and Capacity Building Programme” that met priorities set by Egypt, Jordan, Lebanon, Morocco and Tunisia for improving sustainable water resources management and achieving water and food security.

The objective of the programme was to improve water resources and agricultural management and planning across beneficiary countries, based on quantitative and spatial-based decision-making tools that used advanced technologies, including geographic information systems, data assimilation and modelling techniques.

The programme consisted of three components, namely improving local water resources and agriculture management, capacity-building and project management, and regional integration and cooperation.





Under the framework of this programme, the National Council for Scientific Research (CNRS) in Lebanon, Jordan's Ministry of Water and Irrigation, the National Authority for Remote Sensing and Space Sciences (NARSS) in Egypt, Centre royal de télédétection spatiale in Morocco, Tunisia's Centre régional de télédétection des états de l'Afrique du Nord (CRTEAN) and the AWC joined efforts to implement the national and regional components. For example, the Center for Remote Sensing, at the CNRS, through their national project CAPWATER, considered the enormous capabilities offered by space-related remote sensing techniques and established the Sustainable Natural Resources Management Platform and Early Warning System. This platform connects CNRS researchers with the DRM unit at the Prime Minister's Office, thereby creating an integral link between data analysis and decision-making.

The project highlights the importance of building human and scientific capabilities for risk prediction and early warning, which will improve national decision-making processes to prevent and reduce risks and disaster losses.<sup>a</sup>

a Arab Water Council, 2014.

### **Box 3.8** *Regional Initiative for the Assessment of Climate Change Impacts on Water Resources and Socioeconomic Vulnerability in the Arab region, or RICCAR<sup>a</sup>*

RICCAR<sup>b</sup> was developed to carry out an integrated assessment of the region's vulnerability to climate change using regional climate and hydrological modelling, and geospatial vulnerability assessment, taking into consideration extreme climate events and disaster loss databases. It has identified vulnerability hotspots in water-dependent sectors that have informed evidence-based prioritization and justification for investment in both CCA and DRR in national development planning. The resulting regional climate projections and vulnerability maps can be used to help identify the future risk of weather-related disasters. This better understanding of patterns, trends and quantitative indicators of disaster risk contribute to improved planning processes, building a science-policy interface and enhancing the effectiveness of investments in individual and multi-hazard prevention and mitigation projects and for sustainable infrastructure systems.

a UNESCWA and others, 2017.

b RICCAR was launched in 2010 under the auspices of the Arab Ministerial Water Council (AWMC) and derives its mandate from resolutions adopted by the council, the Council of Arab Ministers Responsible for the Environment, the Arab Permanent Committee for Meteorology and the 25th UNESCWA Ministerial Session. The AWMC technical scientific and advisory committee serves as the advisory board of the RICCAR knowledge hub.

## **4. National adaptation plans as a means for integration with the Sendai Framework and SDGs**

National adaptation plans (NAPs) as an inclusive planning instrument may be used to ensure and enhance integration with Sendai Framework and SDG strategies, policies and plans.

### **Box 3.9** *The Sudan national adaptation plan: contributing to disaster risk reduction and sustainable development*

The Sudan's NAP, developed in 2016, is a multi-hazard strategy integrating climate change risks into an action framework of climate impact prevention, preparedness and response. It aims to reduce the vulnerability of communities most exposed to climate-related disasters, such as droughts, flash floods and vector-borne disease outbreaks. The underpinning goal is to contribute to sustainable development and poverty reduction by reducing the long-term impacts of climate change.<sup>a</sup>

The sectors most at risk from climate change are agriculture, water and health. Their vulnerability is assessed at national level, where adaptation strategies are identified. The major climate-related factors impacting the sectors in almost all the Sudan's 18 states are droughts and floods. This results in crop damage or failure, deterioration of forests and rangelands, lack of food and water insecurity, and the spread of disease. ...→

Adaptation programmes establish disaster management units and health centres, employ early warning systems, and introduce drought-resistant crop varieties and efficient irrigation techniques. The Red Sea State, the only coastal state in the Sudan, is also highly vulnerable to rising sea levels and changes in sea surface temperature, which pose threats to coastal ecosystems and marine biodiversity, intensify floods and increase the salinity of coastal groundwater. Ecosystem-based management is a key adaptive measure adopted by the NAP for resilient coastal zone management and development.

The implementation of the Sudan's NAP is dependent on an overarching enabling environment that includes institutional development, support to rural communities, access to information, raising awareness, project planning and fundraising. A five-year budget, estimated at \$300 million for the implementation of priority adaptation measures in the 18 States, has been determined. Financing and technological resources are needed throughout the entire NAP process, along with further quantification of investment and climate-finance needs and analysis of adaptation options and strategies.

a The Sudan, Ministry of Environment, Natural Resources and Physical Development, 2016.

### **Box 3.10** *Palestinian national adaptation plan: socioeconomic sectors vulnerable to climate change*

In its NAP, the State of Palestine<sup>a</sup> identifies 12 socioeconomic sectors/themes that are highly vulnerable to climate change, including agriculture, energy, food, health, industry, coastal and marine, tourism, terrestrial ecosystems, urban and infrastructure, water, solid waste and wastewater, and gender. Adaptation options are identified under each sector to reduce climate sensitivity or increase adaptive capacity. These options include management and operational strategies, infrastructural changes, policy adjustments and capacity-building, many of which require the application of advanced technology.

In Gaza, for example, rainwater harvesting to sustain coastal agriculture and saline-tolerant crops necessitates applied research and advanced equipment for soil testing. In the West Bank, the installation of an agriculture DRR and management system would enhance crop and livestock production, and coupled with an agricultural insurance and compensation plan, would build farm resilience. The total cost of implementing such adaptation measures in the West Bank and Gaza is estimated at \$3.54 billion over a period of 10 years.

a State of Palestine, Environment Quality Authority, 2016.

## **5. Public, private, international and national financing for the SDGs, Sendai Framework and Paris Agreement**

Gradual shifting and channelling of existing financial outlay is of prime importance; it is estimated that globally, \$5 trillion to \$7 trillion is needed each year until 2030 to meet the SDGs.<sup>189</sup> In developing countries alone, the investment gap is estimated at \$2.5 trillion annually. Further, profits generated by a 30,000-company universe in the transition to a 2°C world are estimated at \$2.1 trillion.<sup>190</sup> It is therefore essential to assess how climate-related risks, benefits and opportunities will impact different stakeholders and vulnerable communities.

Arab States need a minimum of \$230 billion annually to support achieving the SDGs. The financing gap is estimated at more than \$100 billion per year, with a cumulative total of more than \$1.5 trillion to 2030. Hence, funding sustainable development requires new, sustainable sources, plus the greening of budgets and redirection of existing budgetary allocations away from conventional investments. This is in addition to the cost of post-conflict recovery in the region, estimated at more than \$900 billion since 2011.<sup>191</sup>

189 AFED, 2018.

190 United Nations Environment Programme Finance Initiative, 2019.

191 Arab Forum for Environment and Development, 2018.

The international financial environment, including the weak global economy, low trade growth, soft commodity prices, the volatility of international capital flows and increased geopolitical challenges, make the mobilization of such sustainable investment requirements a primary concern. The impact of COVID-19 has prompted revisions to baseline forecasts. The global growth contraction for 2020 was estimated at -3.5 per cent, 0.9 percentage points higher than projected in the previous forecast, reflecting stronger-than-expected momentum in the second half of 2020. UNEP has proposed five steps to embed financing within sustainable development, building on country-level plans to ensure the financial system fulfils its historical purpose of meeting long-term needs, engaging key international institutions effectively and developing the new generation of methods and standards that can institutionalize sustainable development in the governance and practice of financial and capital markets worldwide, as follows:<sup>192</sup>

1. National financial market reform and development plans consider the SDGs and the Paris climate commitments, and vice versa.
2. Financial technology mobilized to support accelerated alignment of the financial system with sustainable development, particularly for developing countries.
3. Public finance to undergo disciplined analysis and, as required, redeployed to align with the SDGs and Paris commitments.
4. Investment in awareness raising and building key capabilities so the financial community can effectively implement new approaches and plans.
5. Development of conventional methods, tools and standards to enable sustainable development priorities to be measured and incorporated into financial practice.

Public and private financing sources in the Arab region vary considerably. In most non-GCC countries, sources are constrained and below levels needed to implement the SDGs. Strengthening partnerships between public and private funding, as well as national and international policy environments, and building the coherence of regulatory frameworks should be recognized as a necessity. Further, changes in investment patterns must be encouraged to align with resilience-building efforts and to facilitate funding for sustainable development, CCA and DRR.

### **Box 3.11** *SDG Climate Facility: Climate Action for Human Security*

The SDG Climate Facility: Climate Action for Human Security project<sup>a</sup> was launched in 2019 as a multi-partner platform of regional and global experts. It brings together UNDP with the League of Arab States, the AWC, WFP, the United Nations Environment Programme Finance Initiative (UNEPFI), UNDRR and UN-Habitat to help countries gear climate actions towards broader SDG targets and scale up access to and delivery of climate finance, including through innovative partnerships with the private sector.

To improve the lives of internally displaced persons and reduce the risk of future displacement, the project also seeks to maximize the impact of partnerships by linking individual actions on interdependent issues, such as security, climate finance, private-sector engagement, early warning, solar systems for recovery and ecosystem resilience.

a SDG Climate Facility - United Nations Environment - Finance Initiative (unepfi.org).

### **Box 3.12** *Morocco: co-financing projects as incentive for prevention investment*

For several years, Morocco's public authorities have committed to building resilience and better protecting vulnerable populations and assets exposed to multi-hazard risks. To this end, the Fund to Combat the Effects of Natural Disasters (FLCN) was created in 2009 to help prevent natural hazard-induced disasters and recovery from them, and to build resilience through co-financing risk reduction projects by institutional partners, including ministerial departments, local authorities and public institutions and enterprises. Co-financing is carried out through an annual Call for Projects (CFP) process that aims to increase investments in structural and non-structural risk reduction measures.<sup>a</sup>



192 UNEP, 2016a.

This “resilience fund” is the financial arm of the Integrated Natural Disaster Risk Management and Resilience Program. Through its other tools, such as an operational manual, environmental and social guide and a grievance management guide, the Program has promoted good risk governance practices. A national selection committee chooses projects eligible for financing, while an associated steering committee includes several ministerial departments involved in risk management. These projects, selected in a transparent, strategic and cost-effective manner and validated by the steering committee, address the four high-priority risks, namely floods and torrential floods, mass movements such as rock and block falls, landslides and mudflows, seismic events, and coastal erosion and tsunamis. The FLCN also provides technical assistance to project leaders through targeted training.

a Morocco, Ministry of Interior, Department of Natural Hazard, 2020.

## 6. Capacity-building for coherence, integration and financing

Capacity-building at all levels should be scaled up in the push for a transformative shift towards sustainable development. Despite the challenging global economy, collective public and private actions can effect a positive transformation. Changes are required in public policies and regulatory frameworks, in the use of public finances and in securing an increase in such finances. The key is to bring the global debate to the Arab region through a transparent and inclusive multisectoral, multi-stakeholder forum for dialogue that is able to contextualize discussion on blending financing instruments and developing risk-informed financing opportunities and partnerships that leverage public and private resources. To achieve this shift, there is a need to build capacity while accounting for the following realities:

- Domestic public resource mobilization remains insufficient to meet needs in several Arab countries. The prime driver is economic growth, supported by sound policies and an enabling and coherent policy environment at all levels. The strengthening of public institutions and infrastructure on which much of society depends – including the private sector – is critical. Thus, there is also a need to strengthen tax administration, implement policies to generate additional resources and combat corruption in all forms.
- Placing domestic and international private finance within new investment models that allow synergy between public and private investment can bring transformative results by avoiding losses and realizing the savings and co-benefits to different sectors of society.
- Achieving the post-2015 actions more coherently is in the best interests of the private sector as it may unlock an abundance of new business opportunities, provide a source of finance and investment, and become an engine for economic growth and employment.

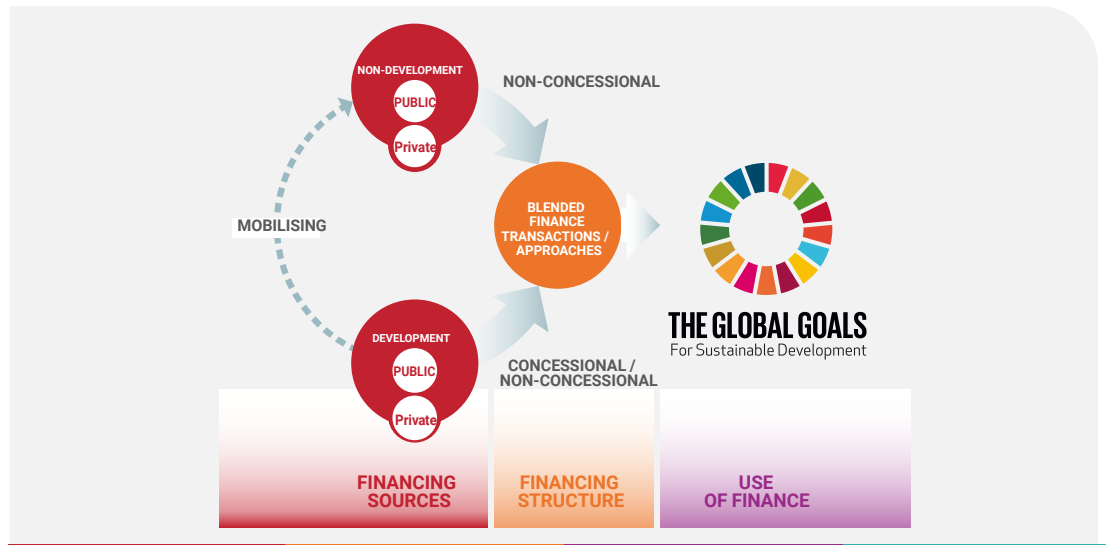
The above points should be further analysed and put into a regional context while accounting for the following global trends: (a) impact investing that generates specific beneficial social or environmental effects (as a subset of socially responsible investing) in addition to financial gains; (b) private philanthropy, which is reshaping the development landscape and considered the third provider of health funding in developing countries, with the trend taking shape regionally through the League of Arab States; (c) social entrepreneurship that recognizes a social problem and uses entrepreneurial principles to organize, create and manage a venture to effect social change; (d) corporate social responsibility, which is a growing force, with an increasing number of companies looking to invest in communities and institutions that make their success possible; and (e) blended finance, a method to unlock private capital for development by structuring global investment deals with a mixed portfolio of public/private funds to spread risk-reward profiles, increase catalytic private investment in sustainable financing and create markets in developing/new contexts. Blended finance “crowds in” private capital by managing, transferring or mitigating the risk, inherent or perceived, in the developing world, while also producing a return and creating jobs and growth through investments that otherwise would not exist (figure 3.4).<sup>193</sup>

SDIC of the League of Arab States organizes annual sessions and programmes for sustainable finance. It aims to establish a regional centre – one that will shape the future of SDG investments in the region – to increase the number of public-private partnerships and the use of blended financing instruments, and improve reporting on the impact business has on achieving the SDGs. The centre will regularly bring public and private sector leaders together to address key financing challenges and accelerate investments, as stepping stones towards achieving sustainable development in the Arab region.

193 OECD, 2017; Savoy and Milner, 2018.



Figure 3.4 Blended finance and how it works



Source: OECD, 2017; Savoy and Milner, 2018.

## D. Climate risks relevant to national adaptation, risk reduction and development

The key climate risks relevant to national adaptation and risk reduction strategies were identified in GAR19 as: i) extreme hazard events related to flooding, water availability and extreme drought; (ii) increased vector-borne diseases and heat-related morbidity and mortality; (iii) extinction, local species loss and degradation of terrestrial, marine and wetland ecosystems important to human health and livelihoods; (iv) net reduction in crop yields with direct impacts on food availability and security; (v) risks associated with ocean warming and acidification of fisheries; and (vi) reduced economic growth by the end of the century, particularly in low- and middle-income countries and regions. This section provides a discussion on some of these depending on available data.<sup>194</sup>

### 1. Water availability, extreme drought and conflict

#### Disaster risk reduction as an entry point to address water availability and conflict towards sustainable development

Water scarcity in Yemen is intricately linked to localized conflict. In Sana'a, water sources are mainly shared dams, with communities in distant locations often unable to access adequate water. In Lahj, farmers living in the vicinity of canal headworks have the advantage, and the ability to control the flow of water, with some blocking water for farmers downstream. This created tension between upstream farmers and downstream farmers who perceived a breach of their right to access shared natural resources. Disputes also arose over unregulated water extraction, overexploitation, diversion and hindered agricultural production. The situation was further complicated by the entrenched nature of conflict, in which tribal or community leaders issued decrees forbidding conflicting parties from using the disputed water sources, measures they had originally introduced to prevent escalations of conflict.

Despite a long history of community-based resolution, Yemen's ongoing conflict has stretched existing mechanisms and overwhelmed traditional non-formal actors, such as the tribal and community leaders. The war has weakened governance structures, such as the Ministry of Water and Irrigation, which in the past had a role in regulating water resources, leaving farmers to manage themselves. This has resulted in overexploitation by some farmers and scarcity for others.

194 UNDRR, 2019a.

To address this, in 2018 and 2019 the FAO and IOM implemented a series of interventions in Sana'a and Lahj to strengthen community-level peacebuilding capacities through natural resources management. The project revived traditional mechanisms for conflict resolution through community dialogue, and empowered women to take an active role in these processes. The FAO and IOM partnership helped restore 14 water user associations (WUAs) for local stakeholders, and built their capacity in conflict resolution and project administration, demonstrating that recovery based on "build back better" includes social as well as economic, environmental and physical measures. FAO established women's user groups (WWUGs) within each WUA to ensure their concerns were incorporated into water management decision-making, and enabled 30 per cent and 14 per cent female participation in the Board of Directors in Sana'a and Lahj, respectively.<sup>195</sup>

The project also facilitated conflict resolution processes, empowering women to act as agents of peace by supporting the WUAs and WWUGs to resolve conflicts and rehabilitate water infrastructure to improve access to water. Each WUA was helped to set up a conflict resolution committee (CRC), with equal female and male representation. The CRCs chart conflict parties, reaching out to the actors to understand grievances and offer general localized solutions. FAO and IOM held sessions in 2018 and 2019 to train WUAs on conflict resolution, gender responsive actions and water rights. Women assumed leading roles in these processes and in mobilizing community members to support resolutions, at community and institutional level.

The WUAs have subsequently helped resolve 15 local conflicts and implemented, with FAO and IOM engineers, the rehabilitation of water infrastructure to increase sustainable access and fair distribution. Following the interventions, the WUAs have reported a reduction in conflict, increased access to irrigation water and an anticipated increase in agricultural production.

## 2. Impact on ecosystems and species for human food and livelihoods

Biodiversity is essential to ecosystem functioning and services delivery, and contributes to agriculture and food production.<sup>196</sup> The region has diverse ecosystems, including aquatic, terrestrial and wetlands. The major drivers of biodiversity loss in the region include urban expansion, and the spread of intensive agricultural systems and cultivation of marginal land due to high population growth. In addition, the region has been identified as one of the most vulnerable to climate change. It will be impacted by sea level rise, increasing temperature and a change in the amount and frequency of rainfall, leading to increasing scarcity and drought, groundwater salinity, and desertification. A major challenge is the lack of available information on biodiversity and ecosystem services. Recent conflicts have delayed conservation work and hindered countries in achieving their biodiversity programmes and plans. According to the 2015 International Union for Conservation of Nature (IUCN) Red List, more than 2,000 species in the region are under threat, with fish comprising 28 per cent of these threatened species, plants 18 per cent, birds 12 per cent and mammals 9 per cent, among others.<sup>197</sup>

The Fertile Crescent and Mediterranean ecosystem has been rich in its biodiversity resources, where most agricultural species originated and were first planted as commercial crops. Over time, valuable plant genetic resources are being eroded through degradation of natural habitats, more intensive cultivation of arable lands, expansion of cultivation into marginal areas, replacement of diverse and widely adapted landraces by new cultivars based on a narrow genetic base, and over-exploitation of natural pastures and grazing lands. It has been reported that the region's ecological footprint is growing sharply and now exceeds the global average.<sup>198</sup> Countries are improving efforts to mainstream biodiversity in their agriculture sectors, as reported in their national biodiversity strategic action plans (NBSAPs). However, cross-sectoral strategies are required for taking tangible actions at regional and national levels, with the full engagement of all relevant stakeholders to implement these plans.

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195 In Lahj, there was less female participation on the Board of Directors due to deeper cultural constraints, though women were included in WUA subcommittees, including monitoring and planning committees.

196 Encompasses domesticated crops and livestock raised by farmers/livestock-keepers, trees planted and harvested by forest dwellers, and aquatic species harvested or raised by fishers/aquaculture practitioners. It includes other species of plants, animals and microorganisms that underpin production, whether by creating and maintaining healthy soils, pollinating plants, purifying water, protecting against extreme weather events, or enabling ruminant animals to digest fibrous plant materials. It also includes wild species harvested for food and other purposes, and microorganisms used in food processing and agro-industrial processes. See FAO, 2019.

197 International Union for Conservation of Nature, 2015.

198 FAO, 2019e.

### 3. Agriculture and fisheries

#### Resettlement of the drought-affected Hawaweer, the Sudan

Wadi Al Magaddam in the Sudan's Northern State is the traditional homeland of two nomadic tribes, the larger of which is the Hawaweer. A nomadic pastoralist group, they lived in the middle of the Bayoda desert, a dry tributary of the river Nile, which starts in Kordofan in western Sudan and joins the Nile in Korti in the north.<sup>199</sup> They depended on camels, sheep and goats, and in years with good rainfall also practised crop production. The Hawaweer were seriously affected by the droughts that occurred in 1983 and 1984. Most families lost their livestock. It is estimated that 20,000 families have been displaced in the Nile area, with only about 6,000 families remaining in the wadi.<sup>200</sup>

Drought and market failure were among the prime causes of the 1984 famine. The serious rainfall deficiency led to hugely inflated food prices and a severe widespread decline in purchasing power. Supplies were readily available at national level but redistribution mechanisms were inadequate.<sup>201</sup> High malnutrition rates were identified among nomadic children, with the Adventist Development and Relief Agency (ADRA) implementing emergency food distribution to the nomads. Farmers had to dispose of their animals to maintain food entitlements and avoid imminent loss through death of the animals. Asset-poor households were dependent on nonagricultural products and transfers to augment their low income. Some farmers had to move from their villages earlier than the normal season in search of work or relief support. Given the large share of income spent on food, households had to adjust consumption by cutting the size and frequency of meals and by changing their diets. This resulted in a decline in agricultural production, translated into a large fall in farm employment.

The drought, and subsequent famine, also highlighted commonalities in socioeconomic and political processes in the Sudan that were responsible for the war, food crises and the collapse of environmental equilibrium.<sup>202</sup> The 1984–1985 famine was the outcome of a long process of drought and desertification, absent or misplaced public food and agricultural policy, and insufficient public response. The government lacked a permanent institution responsible for famine preparedness, and the political will for early intervention to prevent large-scale hunger and mass movement. Emergency food aid, which usually followed official recognition of the existence of famine, was constrained by untimely availability and logistical and managerial limitations. In addition, the macroeconomic policy environment in the 1970s and 1980s was not conducive to preventing erosion of the national capacity to deal with drought crises, which was further undermined by war and civil unrest.

Some 10,000 Hawaweer remained living in the Um Jawasir area, along a major desert route between Khartoum and the Northern State. Men worked on farms, in construction and services, while women cleaned houses and worked on farms.<sup>203</sup> In response to the catastrophic drought in the Sahel region, the Norwegian Ministry of Foreign Affairs had established the Sahel-Sudan-Ethiopia Programme (SSE) to achieve food security and environmental rehabilitation. Although the programme was phased out in 1996, ADRA and other NGOs continued to implement interventions to improve the livelihood security of vulnerable households in drought-prone and marginal areas. To develop the home areas of the Hawaweer, ADRA focused on Um Jawasir, due to its fertile soil and groundwater in sufficient quantities for irrigation, and the fact that families had practised agriculture there during good years.<sup>204</sup>

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## E. Disaster risk reduction and financing for development under COVID-19

Following the High-level Event convened by the prime ministers of Canada and Jamaica and the United Nations Secretary-General in May 2020, and attended by more than 50 heads of State and government, six discussion groups were set up. These were for external finance, remittances, jobs and inclusive growth; recovering better for sustainability; global liquidity and financial stability; debt vulnerability; private sector creditors engagement; and illicit financial flows.<sup>205</sup>

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199 Moh, 1999.

200 The Sudan, Ministry of Agriculture, ADRA-Sudan and Andrews University, 1995.

201 Olsson, 1993.

202 de Waal, 1997; Elmekki, 1999.

203 Johnsen and others, 2000.

204 ADRA-Sudan, Land Use Desertification Control Administration and University of Khartoum, Institute of Environmental Studies, 1999.

205 United Nations, 2020a.

The discussion groups had open membership and included regional organizations, participating Member States and some 50 institutional partners, such as international financial institutions, think tanks, academic institutions, CSOs and relevant United Nations entities. Their main collective output is a menu of policy options providing guidance on actions that stakeholders can undertake to overcome the COVID-19 crisis and steer recovery towards achieving the 2030 Agenda.<sup>206</sup> The options on financing for development in the era of COVID-19 and beyond identified updating national DRR strategies as an option for bridging the short-term (2020) and the long-term (2023–2030) recovery measures (based on build back better) in view of shrinking public resources. Integrating DRR in national planning and financing processes was highlighted as one policy area to consider in the medium term (2021–2022) in order to recover better from the impact of COVID-19. In the long term, policy options included operationalizing the link to the financial sector to ensure implementation of national DRR strategies. In particular, the short and medium to long-term policy options to ensure the alignment of national planning, spending and implementation included establishing and revising national DRR strategies, with appropriate financing incorporating multiple, interrelated risks. These include climate change.<sup>207</sup> COVID-19 recovery strategies of Arab countries will be informed by the short-, medium- and long-term recommendations.

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## F. Conclusion

Achieving the Arab region's vision of making development sustainable requires a deep understanding of climate and disaster trends, expansion of drylands and land degradation, food and water insecurity, and the increased levels of social vulnerability.

Yet, development challenges lack strong risk profiles at regional, national and local levels, with disaggregated exposure and vulnerability data along various socioeconomic and spatial parameters. Such an understanding is increasingly important to address the nature of systemic and cascading risks and their implications for development and recovery efforts. The scarcity of disaggregated data is most efficiently and accurately addressed by adopting a coherent and integrated approach across administrative (regional, national, local and community levels), sectoral and international framework levels.

In a region with a large financing gap for sustainable development, coherence and integration present an opportunity. Several regional initiatives are already promoting and adopting a coherent, integrated approach for sustainable development, CCA and DRM strategies. Further, at local level, there has been progress through a range of entry points, such as the adoption of multisectoral, multi-hazard, bottom-up and top-down approaches to develop risk assessments and local resilience action plans.

However, several key challenges remain. The capacities and skills required for financing the mainstreaming of DRM and CCA 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, remain inadequate. Gaps exist in generating risk-disaggregated information and also in understanding the emerging vulnerability of environmental, health, financial, economic and social systems to cascading and systemic risks.

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<sup>206</sup> Ibid.

<sup>207</sup> United Nations, 2020a, 2020b.