

**Economic and Social Commission for Western Asia (ESCWA)**

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Linkages between climate change and disaster risk reduction in the Arab region

Summary

The Economic and Social Commission for Western Asia (ESCWA) is seeking to forge linkages between climate change and communities of practice for disaster risk reduction. This has been pursued through normative studies used to inform intergovernmental mechanisms, expert consultations and interagency processes.

Normative work in this area is supported by analysis and data generated under the Regional Initiative for the Assessment of Climate Change Impacts on Water Resources and Socio-Economic Vulnerability in the Arab Region (RICCAR) through a partnership comprising 11 specialized institutions. Support for disaster loss databases under RICCAR was pursued at the country level in partnership with the United Nations Office for Disaster Risk Reduction. This work contributed to the seventh edition of the ESCWA Water Development Report that focused on climate change adaptation and disaster risk reduction within the context of water scarcity and security in the Arab region. Expert consultation and training activities were also organized for various stakeholder groups to strengthen capacity for analysing extreme climate events and natural disasters at the country and regional levels.

The present document provides recommendations and key messages for improving policy coherence across the climate change and disaster risk reduction communities and proposes steps for continuing normative and capacity-building work in this field under the framework of the Arab Centre for Climate Change Policies.

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Introduction

1. The Economic and Social Commission for Western Asia (ESCWA) has conducted several activities on climate change assessment, adaptation and disaster risk reduction in the Arab region. A number of global frameworks were developed in 2015, which is considered a landmark year for the international agendas, with the adoption of two main interrelated agendas, namely the Sendai Framework for Disaster Risk Reduction (2015-2030) and the Paris Agreement on Climate Change, both referenced in the 2030 Agenda for Sustainable Development. These frameworks highlight the importance of bringing together climate change adaptation (CCA) and disaster risk reduction (DRR) communities to support policy integration and coherence across governmental and non-governmental actors, especially with respect to water-related hazards, such as droughts and floods, which are being exacerbated by climate change.
2. The present document reviews progress in fostering linkages between the climate change and disaster risk reduction communities and associated key messages. Several recommendations are proposed, including that the ESCWA Arab Centre for Climate Change Policies continue supporting member States in this area.

I. EXAMINING CLIMATE CHANGE AND DISASTER RISK REDUCTION LINKAGES

3. The Regional Initiative for the Assessment of the Impact of Climate Change on Water Resources and Socio-Economic Vulnerability in the Arab Region (RICCAR)¹ launched the *Arab Climate Change Assessment Report*² in September 2017. The report presents regional climate projections, hydrological productions and a vulnerability assessment covering the Arab region through the end of the century. Extreme climate indices and vulnerability hotspots are featured in the analysis, and help to identify projected areas and sectors of concern in view of changing climate conditions.
4. Through RICCAR, ESCWA partnered with the United Nations Office for Disaster Risk Reduction (UNDRR) to assist several Arab countries in establishing or updating disaster loss databases in 2016 and 2017. These databases largely cover natural disasters such as floods, flash floods, fires and landslides. The records were summarized in a RICCAR technical report prepared by UNDRR entitled *Disaster Loss Data and Linkage to Climate Change Impacts for the Arab Region*.³
5. The seventh issue of the ESCWA Water Development Report⁴ builds on this regional knowledge base and reviews global processes, regional strategies and action plans related to CCA, DRR and water security, taking into account the water-scarce conditions that dominate the region. The report examines differences and similarities between the methodologies and approaches used by each community of practice, and does so by showing the correlation between extreme climate indices developed by RICCAR and historical disaster loss databases developed with the support of UNDRR. Monitoring mechanisms and means of implementation are also reviewed to ensure synergy and coherence between CCA and DRR, within the context of achieving the 2030 Agenda for Sustainable Development.

¹ RICCAR is implemented under the auspices of the Arab Ministerial Water Council and coordinated by ESCWA through a collaborative partnership involving 11 partner organizations, namely the League of Arab States, ESCWA, the Arab Centre for the Studies of Arid Zones and Dry Lands (ACSAD), the Food and Agriculture Organization of the United Nations (FAO), the German Agency for International Cooperation (GIZ), the Swedish Meteorological and Hydrological Institute (SMHI), the United Nations Environment Programme, the Caro Office of the United Nations Educational, Scientific and Cultural Organization (UNESCO), the United Nations Office for Disaster Risk Reduction (UNDRR), the United Nations University Institute for Water, Environment and Health (UNU-INWEH), and the World Meteorological Organization (WMO). In addition to the resources provided by the partner agencies, funding is provided by the Swedish International Development Cooperation Agency and the German Federal Ministry for Economic Cooperation and Development, which financially supported RICCAR through the Adaptation to Climate Change in the Water Sector in the MENA Region (ACCWaM) project.

² [E/ESCWA/SDPD/2017/RICCAR/Report](#).

³ [E/ESCWA/SDPD/2017/RICCAR/TechnicalReport.3](#).

⁴ [E/ESCWA/SDPD/2017/3](#).

INTERGOVERNMENTAL AND EXPERT MEETINGS

1. *Support on disaster risk reduction*

6. ESCWA collaborated with UNDRR to organize an expert group meeting on coordinating responses to climate change and disaster risk reduction in the Arab region (Beirut, 19-20 December 2017). The meeting investigated intersections between climate change and natural disasters to improve preparedness and coordinated responses across climate change and DRR communities. The meeting provided a platform to exchange best practices in implementing national DRR strategies and fostering better understanding of differences in terminologies and approaches used by both communities.

7. ESCWA and ACSAD contributed to the Fourth Symposium on Tropical Cyclones and Flash Floods (Muscat, 8-9 October 2018) which was attended by representatives from the Ministry of Municipalities and Water Resources, the Ministry of Environment and Climate Affairs, the Ministry of Agriculture, and Sultan Qaboos University researchers. ESCWA moderated a session and ACSAD presented RICCAR climate change projections, including analysis of extreme climate events in Wadi Dikka in Oman.

8. ESCWA and UNDRR organized a national workshop on the Sendai Framework Monitor and National Disaster Loss Accounting System and linkages between climate change and disaster risk reduction for Iraq (Beirut, 18-21 December 2018), following a request from the National Disaster Risk Reduction Committee of Iraq. The Committee includes representatives from various agencies and is tasked with coordinating disaster risk assessment, preparedness and recovery plans for Iraq, as well as the preparation of national reports for submission under the Sendai Framework for Disaster Risk Reduction. Participants received training on the development of temporal, spatial and event analysis based on the new Disaster Loss Accounting System. At the workshop, a methodology was presented for linking projected climate change extreme indices and disaster loss database parameters, drawing on RICCAR outputs.

9. ESCWA collaborated with the League of Arab States to convene a regional consultation on climate change for the 2019 Arab Forum for Sustainable Development and the High-Level Political Forum (Beirut, 21-22 March 2019). The consultation highlighted the importance of climate change impact assessment and response measures, national adaptation plans and disaster risk reduction strategies, better planning and preparedness for flood management and urban planning, and the need to strengthen capacities in national and regional multi-hazard early warning systems and disaster risk management and to ensure public participation in emergency preparedness. The resulting outcome statement was submitted to the Arab Forum for Sustainable Development (Beirut, 9-11 April 2019) and included as an annex to its meeting report.

10. At the Arab Forum, ESCWA organized a special session on SDG13: Advancing Climate Action in the Arab Region (9 April 2019), which was implemented in partnership with the League of Arab States, the United Nations Development Programme (UNDP), UNESCO, the United Nations Children's Fund (UNICEF), the United Nations Conference on Human Settlements (Habitat), UNDRR, the United Nations Office for Project Services (UNOPS) and the Government of Sweden. Special focus was placed on preparing and responding to natural disasters in particularly vulnerable countries, including the State of Palestine and Yemen. UNDRR organized a special session on empowering people and ensuring inclusiveness and equality in the Arab region (10 April 2019), in partnership with ESCWA and UNOPS. The session focused on strengthening partnerships to ensure coherence in national policies and strategies for disaster risk reduction and sustainable development in Arab countries.

2. *Support to Arab meteorological services on extreme climate events, forecasts and indices*

11. The Arab Climate Outlook Forum was launched by the League of Arab States as secretariat of the Arab Permanent Committee for Meteorology, ESCWA, the World Meteorological Organization (WMO) and Arab meteorological services (Beirut, 29 September 2017). This first meeting discussed seasonal predictions for

autumn 2017 in the Arab region and issued a consensus statement. The second meeting of Forum was hosted by the Egyptian Meteorological Authority (Cairo, 13-14 February 2018) and discussed the need for understanding the services required by stakeholders from different sectors when producing seasonal forecasts. The third meeting was also hosted by the Egyptian Meteorological Authority (Cairo, 26-29 November 2018) and was organized in conjunction with other regional climate outlook meetings serving the Mediterranean, North Africa and South-Eastern Europe regions. At this meeting, stakeholders from the environment, agriculture and water sectors were involved to maximize their use of seasonal predictions in developing early warning statements in dealing with extreme events, and to enhance the resilience of those sectors and prepare risk assessment plans based on services and products of the Arab Climate Outlook Forum.

12. A training workshop on sand and dust storms (SDS) in the Arab region (Cairo, 10-12 February 2018) was organized by ESCWA in partnership with the League of Arab States, WMO, the United Nations Environment Programme, the Egyptian Meteorological Authority, the European Organization for Exploitation of Meteorological Satellites, the State Meteorological Agency of Spain and the Barcelona Supercomputer Centre. The workshop aimed to enhance the technical capacity of operational and research meteorologists from Arab countries in analysing, predicting and projecting sand and dust storms, including the use of ground and satellite observations of dust and dust storm modelling and prediction, and to enhance the understanding of the multi-dimensional effects of sand and dust storms and their impact on socioeconomic sectors and ecosystems. It was concluded that SDS observations were a big gap in Arab countries, and were vital for model calibration and verification. There is a need for long-term SDS modelling given that current climate change models do not take into consideration SDS parameters. Historical trends can be analysed to provide some indicators of future impact to help develop the required mitigation measures.

13. ESCWA substantively contributed to the thirty-fourth and thirty-fifth meetings of the Arab Permanent Committee on Meteorology, held in April 2018 and April 2019, respectively, and to the Arab Ministerial Council on Meteorology and Climate, held in April 2018. At these meetings, ESCWA presented the process of establishing the Arab Climate Outlook Forum under RICCAR, and of developing the Regional Knowledge Hub that can help operationalize the Global Framework for Climate Services in the Arab Region. Products of the Arab Climate Outlook Forum were uploaded on a dedicated knowledge node on the Regional Knowledge Hub, which also includes links to the Arab meteorological offices that participate in the Forum.

14. ESCWA contributed to the third and fourth meetings of the Subcommittee on Weather and Climate Risk Information Management, which were held in Cairo in February 2018 and January 2019, respectively. At those meetings, a methodology was presented for linking climate change and DRR in the Arab region to explain how climate indices of extreme events, such as floods, droughts and very hot days, can be correlated with disaster loss database parameters (e.g. frequency, trends, etc.).

15. ESCWA contributed to the second and third meetings of the Arab Partnership Platform on Disaster Risk Reduction (Beirut, 17-18 December 2018; and Geneva, 13-14 May 2019), organized by UNDRR. The second meeting focused on implementing the Tunis Declaration on Social Justice in the Arab Region and the prioritized action plan for 2018-2020, and discussed the structure, contents and development timeline of the Regional Assessment Report for Disaster Risk Reduction. The third meeting was held back-to-back with the Global Platform on Disaster Risk Reduction (Geneva, 13-17 May 2019), and focused on the preparation of the Regional Assessment Report on Disaster Risk Reduction.

16. ESCWA agreed to contribute to the Regional Assessment Report on Disaster Risk Reduction, which will be published by UNDRR in 2020. The report will tackle the rapidly increasing disasters exposure in the Arab region to highlight the challenges of DRR and CCA with regard to sustainable development and poverty reduction. It will also stress the importance of investing in disaster risk reduction, and guide national Governments, civil society and other stakeholders on how to address these challenges through strategic policies. The report will also focus on the DRR-climate change nexus.

II. KEY MESSAGES ON LINKING CLIMATE CHANGE AND DISASTER RISK REDUCTION

17. The above activities resulted in the following recommendations and key messages to help forge linkages between climate change and DRR communities in the Arab region. The following recommendations also build on recommendations set out in the ESCWA Water Development Report 7: Climate Change and Disaster Risk Reduction in the Arab Region:

(a) Adopt an intersectoral approach to respond to climate change impacts and disaster risks that involves policymakers from various government sectors, and representatives from civil society and academic institutions, the private sector and the media. In the Arab region, flash floods have proven to be the costliest natural disaster in terms of economic losses. Regional and national mapping exercises should not substitute local efforts and participatory engagement to combat the phenomenon;

(b) Identify clear roles and responsibilities with respect to risk assessment, risk management and the implementation of DRR and CCA policies and actions, and strengthen governance;

(c) Develop a comprehensive risk assessment process, based on both climate change modelling and disaster loss surveys specific to the Arab region, to advance regional and national development goals and objectives, and help relevant national institutions in developing natural hazard risk maps and conducting scientific assessments;

(d) Develop a DRR and CCA regional action plan that makes use of existing regional strategies and plans developed under the League of Arab States, aimed at integrating CCA and DRR into national and sectoral plans and policies. This action plan should help to prepare more efficient responses through better risk assessment and coordination; define standards to support risk reduction; enhance and streamline investments in risk reduction, particularly flood prevention, integrated drought management, and critical infrastructure protection; improve information and knowledge-sharing in DRR; and provide opportunities for collaboration within the region to address transboundary concerns, enhance expertise in technical support capacity, promote common standards for DRR within CCA and develop mechanisms for monitoring progress;

(e) Promote technological innovation and the use of geographic information systems and remote sensing in developing hazard and risk maps and early warning systems, and develop a science-policy interface to move from modelling and impact assessment to the formulation of national strategies across sectors. In addition, there is a need to transfer technological approaches from scientific stakeholders to policymakers regarding the collection and dissemination of information on climate change and natural disasters;

(f) Make the best use of global platforms while formulating and submitting proposals to the Climate Technology Centre and Network, for example, to benefit from technology transfer, and adapt and apply technologies in DRR, especially in establishing early warning systems for various hazards, climate change adaptation and mitigation projects;

(g) Mobilize financial resources from all sources (public and private, domestic and international) and promote alternative sources of financing. This can be achieved by developing a financing strategy, at the national and local levels, for disaster risk recovery and response, and integrating climate and disaster risks into regular planning, financing and execution processes; and by exploring the potential of disaster insurance by assessing the costs and benefits of insurance in the fields of DRR and CCA;

(h) Request international and regional support to mobilize resources to help national and local governments develop tailored financing mechanisms that can respond to national needs and specificities. Arab countries are also encouraged to take advantage of the Green Climate Fund and its readiness programme, and to enhance the capacity of national institutions in preparing project proposals and to seek accreditation for national entities to access the Fund's portfolio;

(i) Build capacity for scientific research on risk management, climate change modelling and hydrological modelling in the Arab region. International and regional organizations can play a significant role in mobilizing resources, creating platforms, and exchanging experiences and good practices. There are many academic and research institutions that have significant potential to grow and develop their research portfolios, but this cannot be achieved without regional cooperation, collaboration and support. Linking Arab scientists to global platforms and scientific networks, such as the Arab Centre for Climate Change Policies, the Climate Technology and Centre Network and regional climate outlook forums, is essential for capacity-building;

(j) Establish regional scientific platforms to jointly address the issues of CCA and DRR, including sustainable development, water, energy, the environment and natural resource policy frameworks, which are currently under development by UNISDR (e.g. the Arab Science and Technology Advisory Group for DRR). Such platforms can facilitate the elaboration of outputs and the exploration of synergies to develop regional policies, action plans and programmes focused on building resilience to disasters in vulnerable areas;

(k) Develop capacity to deal with climate change impacts and disasters in the Arab region by supporting scientific research, encouraging all concerned focal institutions and ministries to report national disaster information and indicators on the Sendai Framework Monitoring System, and building negotiating capacity for global meetings and events on climate change and DRR interrelated issues.

III. RECOMMENDATIONS

18. The Committee on Water Resources is invited to consider the following recommendations. The Committee requests that ESCWA:

(a) Increase the dissemination and use of RICCAR regional knowledge products, including climate projections and disaster loss databases, to help inform the science-policy interface and foster linkages between climate change and DRR communities at the regional and national levels;

(b) Continue supporting member States on the interlinkages between climate change and disaster risk reduction through the Arab Centre for Climate Change Policies, and in drawing upon the resources available through the Regional Knowledge Hub to inform policy and research on climate change assessment, adaptation mitigation and disaster risk reduction;

(c) Collaborate with UNDRR on the preparation of the Regional Assessment Report on Disaster Risk Reduction and carry out monitoring under the Sendai Framework in support of Arab countries.

19. The Committee encourages member States to:

Encourage policy coherence and coordination across climate change and DRR communities to inform regional and national policies, strategies and reports, including nationally determined contributions submitted under the Paris Agreement, national reporting under the Sendai Framework, and voluntary national reports under the 2030 Agenda.
