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**Integrated water resources management for improved
water security in the Arab region****Summary**

Arab States are among the most water scarce in the world with 18 out of 22 States falling below the renewable water resources scarcity annual threshold. Water scarcity is a major challenge to sustainable development and water security in the region. The 2030 Agenda for Sustainable Development recognizes that social development and economic prosperity depend on the sustainable management of natural resources, of which freshwater is crucial and central, and this is highlighted in the integrated nature of the Sustainable Development Goals (SDGs).

Specifically, the 2030 Agenda calls for an integrated and inclusive approach to sustainable development in SDG 6. This approach is well represented with the integrated management of water resources (IWRM) target. The 2030 Agenda has recognized the importance of IWRM and dedicated SDG target 6.5, which seeks to ensure implementation of IWRM at all levels, including through transboundary cooperation as appropriate.

ESCWA has implemented several initiatives to help Arab States overcome the challenges in moving towards water security in the region. A selection of these initiatives is presented in this document. The Committee on Water Resources is invited to advise on further areas of work that it would like the ESCWA secretariat to pursue on IWRM for improved water security and provide suggestions as to how to advance the implementation of current areas of work by ESCWA member States and the secretariat.

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Introduction

1. Arab States are among the most water scarce in the world with 18 out of 22 States falling below the renewable water resources scarcity annual threshold of 1,000 m³ per capita and 13 States falling below the absolute water scarcity threshold of 500 m³ per capita per year. This places nearly 374 million people in the Arab region in 2020 under conditions of water scarcity or absolute scarcity. The freshwater scarcity in the Arab region is aggravated by several factors including dependence on shared water resources, water pollution, occupation and conflict affecting people's ability to access water and sanitation services, climate change and extreme climate events, non-revenue water losses from aging water systems, intermittency, inefficient water use and growing demand associated with high population growth rates.
2. Furthermore, while over half of the Arab region's population is now living in cities, water use in agriculture continues to consume the majority of the region's freshwater resources, with important implications for food security, domestic agricultural production and rural livelihoods. Additional water resources are highly energy and financially intensive as they are based on desalination, construction of dams and pumping water from distant sources and deep groundwater aquifers.
3. Water scarcity is a major challenge to sustainable development and water security in the region. This is particularly manifested in its implications for food and energy security, economic development, livelihoods and human health. Water security is thus tied to national and regional security considerations, which must be considered as Arab States aim to pursue commitments to global goals.
4. The 2030 Agenda for Sustainable Development recognizes that social development and economic prosperity depend on the sustainable management of natural resources of which freshwater is crucial and central, and this is highlighted in the integrated nature of the Sustainable Development Goals (SDGs). Achieving water security in the region must acknowledge the symbiotic relationship between water security and sustainable development, and therefore must include considerations for the three pillars of sustainable development: social, economic and environmental, within a human-rights based approach to development that ensures gender equality and that no one is left behind.
5. Specifically, the 2030 Agenda calls for an integrated and inclusive approach to sustainable development in SDG 6. This approach is well represented with the integrated management of water resources (IWRM) target, which was based on the four principles articulated in the 1992 Dublin Statement on Water and Sustainable Development. The four principles assert that: (a) freshwater is a finite and vulnerable resource, essential to sustain life, development and the environment; (b) water development and management should be based on a participatory approach, involving users, planners and policymakers at all levels; (c) women play a central part in the provision, management and safeguarding of water; and (d) water has an economic value in all its competing uses and should be recognized as an economic good.
6. The Arab Ministerial Water Council (AMWC) in the League of Arab States adopted in 2011 the Arab Strategy for Water Security in the Arab Region to Meet the Challenges and Future Needs for Sustainable Development 2010-2030. This strategy has the main goal of meeting the sustainable development challenges through a work plan that tackles several aspects of water resources management such as capacity-building, research and development, provision for drinking and irrigation water services, unconventional water resources and IWRM. The strategy has prioritized enhancing IWRM implementation to address key water security challenges in ways that are economically efficient, socially equitable and environmentally sustainable.
7. The 2030 Agenda has recognized the importance of IWRM and dedicated SDG target 6.5, which seeks to ensure implementation of IWRM at all levels, including through transboundary cooperation as appropriate. Arab States may wish to utilize the momentum of the 2030 Agenda and indicator 6.5.1 to accelerate the application of IWRM as appropriate to the national context. This indicator monitors progress on four aspects of IWRM which include the enabling environment, institutions and participation, management instruments and financing. The monitoring and reporting process on indicator 6.5.1 can be used by States to set national

targets and monitor their achievements in realizing their strengths and weakness and areas that need to be improved. IWRM may offer a holistic approach to moving towards water security as it links the water sector to other sectors such as the agriculture sector and balance conflicts between competing demands such as rural versus urban livelihoods versus ecosystems. Such an approach is complemented by the nexus approach for its cross-sectoral influence and by the human rights-based approach for its equitability, inclusivity, empowerment, transparency and accountability.

8. In order to help Arab States overcome the challenges in moving towards water security in the region, ESCWA has implemented several initiatives, a selection of which is presented below.

I. Initiatives in support of IWRM for improved water security in the Arab region

A. SDG 6: Water and sanitation for all

9. SDG 6 seeks to ensure the availability and sustainable management of water and sanitation for all, with a focus on safe drinking water and sanitation, wastewater treatment, water use efficiency and ecosystems and acknowledgement of the importance of integrated water resource management, cooperation, capacity-building, technology, finance and public participation. Through the follow-up and review provisions of the 2030 Agenda for Sustainable Development, countries committed to regularly report on progress towards its Goals and targets using a set of global indicators. The data collection process and timeline for each indicator is set by the indicator custodian and has been completed for all SDG 6 indicators despite the operating constraints caused by the COVID-19 pandemic. This work is coordinated through the Integrated Monitoring Initiative (IMI-SDG6) by UN-Water. The first global baseline report was issued in 2019, and the *Summary Progress Update 2021: SDG 6 – water and sanitation for all* was launched in March 2021.

10. ESCWA is an active member of UN-Water and collaborates with SDG 6 indicator custodians by providing technical assistance, regional analysis and capacity development on their monitoring and review, and by implementing activities to advance the achievement of their related targets. This includes contributing to the SDG 6 Global Acceleration Framework and the elaboration of Arab regional reports, forums and databases that promote and inform integrated approaches for advancing SDG achievement, including the 2020 Arab Sustainable Development Report launched at the 2021 Arab Forum for Sustainable Development hosted by ESCWA (Beirut, 29-31 March 2021), as well as the Arab SDG Monitor and Arab SDG Gateway, which are maintained by ESCWA and support the UN Regional Collaborative Platform for the Arab Region. ESCWA also leads the preparation of a series of regional reports on the two SDG 6.5 indicators related to integrated water resources management and water cooperation.

11. In collaboration with the UN Environment-DHI Centre on Water and Environment (UNEP-DHI), ESCWA issued the 2019 Status Report on the Implementation of Integrated Water Resources Management in the Arab Region: Progress on SDG Indicator 6.5.1. This report presents the baseline status of IWRM implementation in the Arab region and was based on the responses received from 19 Arab countries on the global survey for SDG indicator 6.5.1 collected by the custodian agency. It was further elaborated by expert knowledge and case studies from the region, including a review by members of the Arab Integrated Water Resources Management Network (AWARENET) supported by ESCWA. The report focuses on groundwater management and cooperation on shared water resources as key water resources concerns in the region. SDG indicator 6.5.1 is measured on a scale of 0-100, based on a country survey containing 33 questions across the four dimensions of IWRM: (a) the enabling environment of policies, laws and plans; (b) institutions and stakeholder participation; (c) management instruments; and (d) financing for water resources management.

12. ESCWA in collaboration with UNEP-DHI is currently producing a progress report on the implementation of IWRM based on the 2020 survey results of SDG indicator 6.5.1. This report provides a progress update on implementing IWRM in the region and identifies priority areas that will help accelerate full implementation. It is based on data from 21 out of 22 countries in the region that reported on SDG indicator

6.5.1 in 2017 and 2020. 15 of these reported in both 2017 and 2020, allowing for an analysis of progress towards the target. Early analysis indicate that between 2017 and 2020, the regional average IWRM implementation increased from 48 to 53 (similar to the global increase from 49 to 54); however, in order to meet the indicator target, the rate of implementation of IWRM urgently needs to double. The findings also indicate that real and rapid progress is possible as between 2017 and 2020, 6 countries made substantial progress or are close to target and 5 countries made moderate progress but need to accelerate, while 9 countries made limited or no progress. The preliminary findings from the report will be discussed with regional stakeholders during the Arab Water Forum (Dubai, September 2021) and with AWARENET members. They will be presented to the Arab Ministerial Water Council during its fourteenth session in November 2021.

13. Following the issuance of the report on Progress on Shared Water Resources Management in the Arab Region: Regional baseline for SDG Indicator 6.5.2 in 2018, ESCWA is continuing collaboration with the custodians of SDG indicator 6.5.2, the United Nations Economic Commission for Europe (UNECE) and the United Nations Educational, Scientific and Cultural Organization (UNESCO) to produce a progress report based on data received from 15 countries that reported on SDG indicator 6.5.2 in 2020. The response rate in 2020 is an increase from the 10 countries that responded in 2017; however, this leaves 6 countries with no response or engagement in reporting on their transboundary cooperation arrangements. On a positive note, not only did the response rate improve in 2020 but also the quality of the reports, which include narratives for improved understanding of the responses. Preliminary findings based on the first two rounds of survey results show that progress on transboundary water cooperation is a long process that takes mutual understanding and exchange. Information on transboundary waters is either not adequately available or if available not easily accessible to advance cooperation. This is particularly so for transboundary groundwater resources where only 7 out of the 15 countries that reported provided information on transboundary groundwater resources and related cooperation agreements. Any acceleration related to transboundary water cooperation requires an improved understanding of transboundary groundwater resources, dedicated financing and improved access to information and monitoring, institutionalized through mandated bodies.

14. To support national reporting on SDG indicator 6.5.2, ESCWA, UNECE and UNESCO jointly organized a workshop on “Supporting the monitoring and implementation of the SDGs in the Arab region: Transboundary water cooperation SDG 6 Indicator 6.5.2”, which was hosted by ESCWA (Beirut, 5 March 2020). The meeting aimed to help countries in the Arab region to collect, report and make use of data on SDG indicator 6.5.2 measuring progress on transboundary water cooperation, in the context of preparing the second reporting exercise. The workshop was organized in the framework of the UN-Water Integrated Monitoring Initiative for SDG 6. The meeting discussed the outcomes of the first reporting exercise on transboundary water cooperation (SDG indicator 6.5.2) and discussed challenges faced by countries in collecting data and information as well as other challenges such as coordinating the national reports and harmonizing understanding of the survey instrument among riparian states and among SDG 6 target 6.5 indicators. Meeting participants discussed the ways they envisage to build on the exchange of experience and lessons learned during the workshop to inform national mechanisms and processes for reporting on SDG indicator 6.5.2. It is expected that the regional findings will inform discussions on transboundary water resources that will be conducted during Cairo Water Week (Cairo, October 2021).

B. Transboundary water cooperation

15. Most Arab States largely rely for their water supply on rivers and/or aquifers that are shared with neighbouring countries, within the region and with countries from outside the region. The high dependency on transboundary water resources complicates the task of achieving water security in many countries of the region and may hinder the attainment of the Sustainable Development Goals. This places transboundary water cooperation as a vital means of implementation for achieving water security. Arab States can draw on global frameworks or regional processes for cooperation. At the global level, several legal frameworks are available for the management of shared water resources and include the United Nations Convention on the Law of the Non-Navigational Uses of International Watercourses, the Draft Articles on the Law of Transboundary Aquifers and the United Nations Economic Commission for Europe Convention on the Protection and Use

of Transboundary Watercourses and International Lakes. Most recently Iraq took all necessary steps at the national level to accede to the Convention on the Protection and Use of Transboundary Watercourses and International Lakes.

16. At the regional level, a Draft Framework Convention on Shared Water Resources in the Arab Region that supports shared water resources management between Arab States was prepared and reviewed by the member States of the League of Arab States under the auspices of the Arab Ministerial Water Council. Resolutions adopted in 2017 called for the legal instrument to be reformulated into a set of common guidance principles for shared water cooperation in the Arab region and for furthering the development of regional capacity for shared water resources management. ESCWA has supported the drafting of these guidelines for cooperation on shared water resources in the Arab region and has contributed to the intergovernmental meetings convened by the AMWC for the review of the guidelines, held in October 2019 in Cairo on the sidelines of the Cairo Water Week and virtually in July 2021. These guidelines are in advanced stages of discussion and aim to support transboundary cooperation between Arab countries.

17. ESCWA also held a capacity development webinar series on “Building negotiation skills for cooperation in managing transboundary water”. The training was held online between 10 December 2020 and 11 January 2021 and brought together young negotiators from ministries responsible for shared water resources from Arab countries. The training course aimed at enhancing the capacity of ESCWA member States to achieve integrated and sustainable management of shared water resources. This will contribute to sustainable development in the Arab region by building negotiation skills and legal and technical knowledge related to water for young negotiators. The training also aimed to provide participants with a deeper understanding of negotiation skills, theories and methods of water diplomacy and the ability to identify potential cooperation opportunities in negotiations on transboundary waters through training modules dealing with international legal tools, the cooperation processes and tools available to the dispute resolution mechanism in the field of water diplomacy, basics of the negotiation process and communication skills critical to negotiations.

18. ESCWA has also been collaborating with the World Bank on a Mashreq Waters Knowledge Series since 2019. The initiative supports capacity development and interregional exchange on water resources with a view to benefiting from opportunities presented by disruptive technologies. Three workshops have been conducted to date with focus on climate change (Beirut, 14-15 January 2020), the economic implications of climate change and water scarcity (virtually, 1-3 December 2020) and groundwater (15-17 June 2021).

C. Water and climate change

19. The impacts of climate change on water availability and water-dependent sectors in the Arab region will continue to affect the ability to effectively manage freshwater resources in the region. The Regional Initiative for the Assessment of the Impact of Climate Change on Water Resources and Socio-Economic Vulnerability in the Arab Region (RICCAR) and its associated Regional Knowledge Hub is coordinated by ESCWA and provides science-based information, data, analysis, training and technical assistance to support countries in taking action on climate change based on ensembles of regional climate projections generated for the Arab/MENA region. This includes the delivery of an open-access six-part webinar series on Climate Change Analysis using GIS Tools, conducted from 1 July to 12 August 2021, and workshops on the use of RICCAR datasets and methodologies to inform analysis of climate, water, extreme events and agricultural productivity. These were conducted in partnership with the Tunisian Ministry of Agriculture (Tunis, 24-28 June 2019), the Egyptian Ministry of Water and Irrigation and the International Commission for Irrigation and Drainage for young water professionals during Cairo Water Week (21-23 October 2019 and 18-22 October 2020), UNESCO and the American University of Beirut (Beirut, 9-11 October 2019) and through national workshops targeting ministries of water, agriculture and irrigation in Jordan, Lebanon, the State of Palestine and the Syrian Arab Republic within the framework of support for RICCAR by the Swedish International Development Cooperation Agency (Sida) through the ESCWA-led projects on the Assessment of the Impact of Climate Change on Water Resources and Socio-Economic Vulnerability in the Arab Region (2010-2019), Promoting Food and Water Security Through Cooperation and Capacity Development in the Arab Region (2014-2019),

Advancing Water and Food Security in a Climate Change Context (2020-2021) and associated United Nations Development Account projects.

20. The RICCAR Regional Knowledge Hub continues to provide these services and is expanding to feature a new set of regional climate modelling projections for a new Mashreq domain. These state-of-the art projections are available at a scale of 10 km x 10 km through mid-century and are being used to prepare a new series of analysis on surface and groundwater resources in collaboration with government counterparts in Iraq, Jordan, Lebanon, the State of Palestine and the Syrian Arab Republic. Technical assistance and training are also being provided to national research institutes in Bahrain and Kuwait on how to use these new projections to inform water and climate policies. They are also supporting interregional collaboration on sand and dust storms with ESCAP.

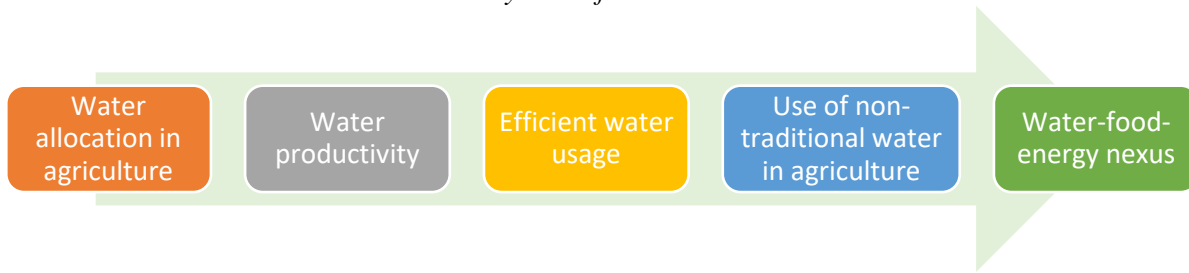
21. In tandem, ESCWA is collaborating with the FAO to implement an initiative on “Increasing watershed resilience to climate change” as part of their Sida-funded project on Water efficiency, productivity and sustainability in the NENA regions (WEPS-NENA) and Water Scarcity Initiative. Work is being conducted in three watersheds identified by the Algerian Ministry of Water Resources and Water Security and the Lebanese Ministry of Energy and Water. The project will result in three basin-level climate-proof watershed management design and resilience packages in 2022. The project complements ESCWA analysis of climate finance needs and flows for adaptation actions, including in the water, health and agricultural sectors and with a view towards identifying opportunities for increasing access to innovative forms of climate finance and generating adaptation and mitigation co-benefits. These activities on water and climate change are conducted under the umbrella of the Arab Centre for Climate Change Policies at ESCWA.

D. Water and food security

22. While approximately 59 per cent of the Arab region’s population now lives in cities, water for agriculture remains a priority to ensure food security and maintain rural livelihoods in the region’s middle- and low-income countries, and the agricultural sector continues to consume 84 per cent of the region’s total water withdrawal. This large water share is rooted in historical policies in the region encouraging domestic production and food self-sufficiency through price guarantees and subsidies. These policies led to general increased development in the agriculture sector, an increased water share, reduced water-use efficiency and crop productivity and depletion of water resources. However, with the realization that the region is unable to meet its food needs with the scarce water and land resources at the national or regional levels, there has been a shift to more market-driven approaches with a higher value export-oriented agriculture sector and with more regulated water use. Improved coordination between the water and agriculture sectors is key to improving water and food security in the region.

23. In April 2019 following years of working towards improved coordination between the water and agricultural sectors, ESCWA and FAO supported the organization of the first joint meeting of Arab ministers of agriculture and water at the League of Arab States in Cairo. The meeting resulted in a call for the effective integration of water and food security issues into the national sustainable development strategies and the adoption of the 2019 Cairo Declaration urging governments and partners to reinforce regional coordination and harmonize policies across both sectors to face the impacts of climate change and water scarcity.

24. The first meeting of the High-Level Joint Committee on Agriculture and Water (Cairo, 23-24 October 2019) took place on the sidelines of the 2019 Cairo Water Week. To inform discussions at the technical meeting, a background paper was prepared by the technical committee comprised of ESCWA, FAO, the Arab Organization for Agricultural Development (AOAD) and the AMWC on “Water allocation for agriculture in the Arab region: Towards a paradigm change”. The paper provided a number of recommendations that focus on needed changes in water and agricultural strategies to make water allocation mechanisms more sustainable and cope with increasing water scarcity in the region. The meeting also resulted in the adoption of five suggested priority areas for work of the High-Level Joint Committee on Agriculture and Water.

Priority areas for cross-sectoral work

25. The second meeting of the High-Level Joint Committee on Agriculture and Water took place virtually on 19 October 2020 during the 2020 Cairo Water Week and was jointly organized by ESCWA, FAO and the League of Arab States. The meeting discussed the progress made in implementation of the recommendations of the first technical meeting and the proposed action plan for the implementation of the 2019 Cairo Declaration. After review by member States of the action plan, an expert group meeting was held on 27 January 2021 virtually, jointly organized by ESCWA, FAO and LAS. The meeting discussed, revised and finalized the action plan for the implementation of the 2019 Cairo Declaration for presentation to the second joint meeting of Arab ministers of agriculture and water to be held in October 2021.

26. In addition, the technical committee is preparing Voluntary Guidelines for Improved Water Allocation for Agriculture, which are intended to provide Arab decision makers and water resources planners with relevant approaches and guiding principles to assist in the development, design, implementation and enforcement of water allocation regimes for sustainable use of water resources. These guidelines are also to be reviewed in an expert group meeting that will take place in September 2021 before their submission for discussion by the High-Level Joint Committee and adoption during the second joint ministerial meeting for agriculture and water.

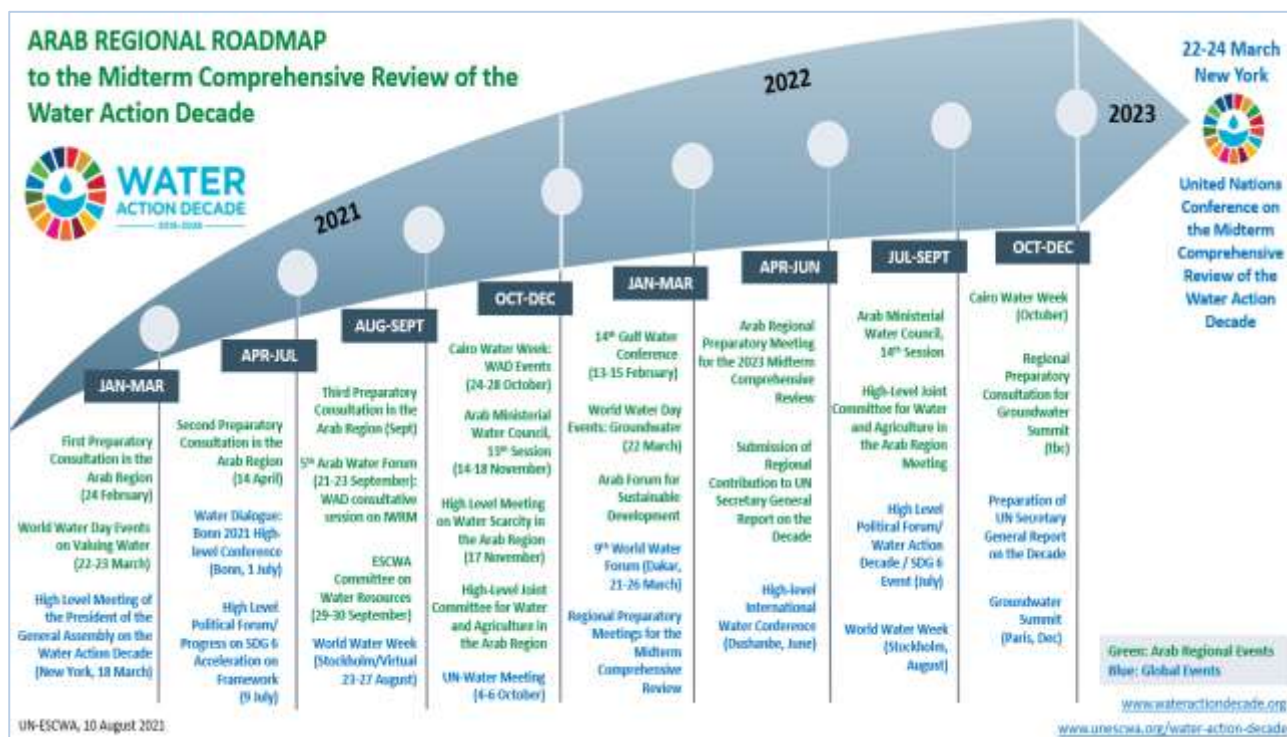
E. Water Action Decade

27. The International Decade for Action, “Water for Sustainable Development” 2018-2028 (a.k.a. the Water Action Decade) aims to provide greater focus on the sustainable development and integrated management of water resources to achieve social, economic and environmental objectives, implement related programmes and projects and further cooperation and partnership at all levels in order to help to achieve internationally agreed water-related goals and targets (A/RES/71/222). These include water-related goals in the 2030 Agenda and other multilateral agreements such as those related to climate change, disaster risk reduction and cities.

28. ESCWA was mandated by the twelfth and thirteenth sessions of the ESCWA Committee on Water Resources, in 2017 and 2019 respectively, to support ESCWA member State engagement in the Decade. The Arab Ministerial Water Council (AMWC) also mandated ESCWA to lead regional coordination in preparation for the Midterm Comprehensive Review of the Water Action Decade in collaboration with the League of Arab States secretariat and regional organizations. ESCWA also co-leads with ESCAP the UN-Water Regional Coordination Expert Group, which supports regional-level preparations for the Midterm Comprehensive Review. This includes convening an Arab regional preparatory meeting planned for the first half of 2022. The outcomes will contribute to the global midterm comprehensive review that will be held at the United Nations in New York in March 2023, which comes 50 years following the United Nations Conference on Water (Mar del Plata 1977) that launched the first internationally coordinated approach on integrated water resources management.

29. In anticipation of this regional preparatory meeting, ESCWA established a regional task force and has organized a series of consultations with regional and national partners. Furthermore, lead conveners of regional water conferences in 2021 and early 2022 have been invited to submit and present the key outcomes of their regional forums to the regional preparatory meeting. This includes outcomes of the forthcoming Arab Water Forum (Dubai, September 2021), Cairo Water Week (Cairo, October 2021), High-Level Meeting on Water

Scarcity (Cairo, November 2021), Gulf Water Conference (Riyadh, February 2022) and the annual Arab Forum for Sustainable Development. ESCWA also issued a regional booklet on the Decade to support these regional process entitled the Water Action Decade 2018-2028: Water for Sustainable Development, Arab Region Engagement and maintains a regional calendar of events contributing to the Decade (see below), updates to which are made available on a dedicated Decade webpage on the ESCWA website.



II. Recommendations

30. ESCWA invites the Committee on Water Resources to advise on further areas of work that it would like the secretariat to pursue on IWRM for improved water security and provide suggestions as to how to advance the implementation of current areas of work by ESCWA member States and the ESCWA secretariat. In this regard, the following recommendations are submitted for consideration by the Committee.

31. The Committee may wish to consider the following:

(a) Measures to accelerate the implementation of integrated water resources management practices and to support regional cooperation to this end;

(b) Actions to mainstream water-related goals and targets in national and sectoral development plans and commitments, including those related to food, energy and climate change, to promoted integrated programming and policy development;

(c) Efforts that advance the Water Action Decade and contribute to its midterm review at the regional and global levels through activities that support multisectoral and multi-stakeholder engagement.

32. The Committee may also wish to discuss how the ESCWA secretariat can support member States, for example through:

(a) Continuing to provide technical support to Arab States on the advancement of integrated water resources management and associated water-related goals to advance water security, with due consideration to regional specificities and needs associated with capacity development, technology transfer and finance;

(b) Expanding the regional knowledge base on water and providing opportunities for regional dialogue and enhanced understanding on water security challenges, including how changes in water availability affect the achievement of food, energy and climate-related goals;

(c) Supporting regional engagement and awareness-raising of regional priorities on water-related issues and challenges facing the Arab region in global, regional and national forums, including those related to follow-up on the 2030 Agenda for Sustainable Development, the Paris Agreement, the Sendai Framework on Disaster Risk Reduction and the Addis Ababa Action Agenda;

(d) Supporting member States engage in the International Decade for Action on Water for Sustainable Development (2018-2028) to achieve progress on the internationally adopted water-related goals, and coordinate regional preparations for its Midterm Comprehensive Review.
