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INTEGRATED MANAGEMENT OF SHARED WATER RESOURCES**DEVELOPMENT OF A REGIONAL LEGAL FRAMEWORK
FOR SHARED WATER RESOURCES IN THE ARAB REGION****Summary**

The management of shared water resources has direct implications for sustainable development in the Arab region. Clearly defined rights to shared water resources are necessary to support the planning, management, use and sustainability of the resource. The challenge of doing so is heightened in the water-scarce environment of the Arab region. Accordingly, despite the bilateral and sometimes multilateral initiatives on cooperation, management and allocation of shared water resources within the region, it can generally be concluded that the region lacks a unified vision on the issue. The recent formation of the Arab Ministerial Water Council under the umbrella of the League of Arab States and its initiative to prepare a regional Arab water security strategy is a step towards achieving such a vision. The Council recognizes that water security in the region does not depend exclusively on resolving the allocation of shared water resources with non-Arab countries, but includes the need to set the rules and norms necessary for managing shared water resources within the region between Arab countries. This includes the need to secure socio-economic returns from the use of such shared resources through the application of integrated water resource management tools.

To set a solid foundation for cooperation between Arab countries, the Council passed a resolution requesting the Center of Water Studies and Arab Water Security at the League of Arab States and ESCWA, in coordination with the Arab Center for the Studies of Arid Zones and Dry Lands (ACSAD) and the Stockholm International Water Institute, to prepare a legal framework for shared water in the Arab region. The legal framework aims to (a) address all shared surface water and groundwater (both renewable and non-renewable) resources in the region; (b) take the specificities of the region into consideration; and (c) incorporate within its principles the notions of fairness and equity for all riparian countries.

This report examines the work undertaken by ESCWA to identify the guiding principles that should form the basis for the legal framework for shared water in the Arab region, with a view to fostering discussion on the next steps necessary and further work to be undertaken in support of the management of shared water resources in the region.

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Introduction

1. The Arab countries comprise one of the most water-scarce regions in the world. According to the latest estimates, of the 22 member countries of the League of Arab States, only 6 countries (Comoros, Iraq, Lebanon, Mauritania, Somalia and the Sudan), representing only some 18 per cent of the population of the region, have a per capita share of renewable water resources that slightly exceeds the water poverty threshold of 1000m³ annually, while 12 Arab countries fall below the acute water scarcity level of 500m³ per capita annually. When accounting for internal renewable water resources only, the number of countries with a per capita share above the water poverty line falls to only three (Comoros, Iraq and Lebanon), representing only some 7 per cent of the total population of the region, with 15 countries falling below the acute water scarcity level of 500m³ annually.^{1,2,3} With increasing population growth and the consequent rise in demand for water to satisfy needs for domestic use, food production and industry, per capita water availability within the region is expected to fall even further, thus becoming a major obstacle to sustained economic growth. In parts of certain countries, water availability is already inadequate to satisfy demand for drinking water and proper personal hygiene needs and, as a result, has been a factor in triggering internal rural-urban migration.
2. The alarming situation with regard to the availability of water resources in most countries in the region has led to greater reliance on external renewable surface-water resources that originate outside their national borders; non-renewable groundwater reserves, leading to a trend towards exhaustion of many aquifers; and non-conventional water resources in the form of desalinated seawater and brackish waters, and treated waste water.
3. It is estimated that nearly 66 per cent of all available surface water resources in the ESCWA region, represented by major international rivers (including the Nile, Euphrates and Tigris), originate outside the region and, as such, in certain cases, constitute a source of political tension with upstream countries.⁴ Although these major rivers represent a large percentage of the renewable water resources in the region, there are many smaller water resources (including rivers, streams, seasonal spate flows and groundwater) that cross the national borders of the region's countries and, as such, need to be managed jointly in an integrated manner in order to maximize their socio-economic returns.
4. As a result of the development in drilling and pumping technologies over the past four decades, many countries in the region are developing aquifers at an increasing rate, with groundwater gaining importance, particularly for domestic water supplies and increasingly for irrigation. With shallow aquifers mostly developed, countries are exploring the development of deeper and farther aquifers, which, in many cases, are part of more extensive regional cross-boundary aquifers. Large parts of the region are underlain by extensive renewable and non-renewable groundwater/aquifer systems. While renewable groundwater often links to surface-water courses and may be conjunctively managed, non-renewable groundwater resources need to be addressed through special management arrangements.
5. Non-conventional water resources are gaining prime importance in certain parts of the region, particularly within the countries of the Gulf Cooperation Council (GCC). It is estimated that the desalination capacity of the GCC countries amounts to half the total global desalination capacity. There are serious

¹ Of the 14 ESCWA member countries, only Iraq, the Sudan and Lebanon have a per capita share of renewable water resources that exceeds 1000 m³ annually. Of the remaining countries, only the Syrian Arab Republic and Egypt have a per capita share that exceeds the acute water scarcity level of 500 m³ annually. When accounting only for internally-generated renewable water resources, only Iraq and Lebanon have a per capita share that slightly exceeds the water poverty threshold of 1000 m³ annually, while, with the exception of the Sudan, the remaining countries in the ESCWA region have a per capita share that falls below the acute water scarcity level of 500 m³ annually. In both cases, the annual per capita share of renewable water resources in Oman is reported at 503 m³.

² <http://www.fao.org/nr/water/aquastat/data/query/index.html>.

³ ESCWA, 2007, *Water Development Report 2: State of Water Resources in the ESCWA Region* (E/ESCWA/SDPD/2007/6).

⁴ Ibid.

limitations in industrial capacity and insufficient funding for research and development in desalination and related technologies.⁵

6. It is important to highlight that, to a large extent, degradation of water quality, both at the source and at the tap remains a major challenge that threatens both public health and the environment. Water use efficiency and allocation of scarce water resources to low-return economic activities represent another challenge to the countries of the region, which requires the development and implementation of integrated water resources plans that take into consideration the optimal allocation and use of water resources in order to maximize their financial, economic and social return.

I. REGIONAL INSTITUTIONAL DEVELOPMENT FOR WATER RESOURCES MANAGEMENT

A. ESTABLISHMENT OF THE ARAB MINISTERIAL WATER COUNCIL

7. Recognizing the pivotal role of water in sustainable development and the compounded impact of water scarcity at the local, national and regional levels, the League of Arab States established the Arab Ministerial Water Council (AMWC). Although the decision to establish the Council has come relatively late in comparison with other Councils within the League,^{6, 7} it nevertheless reflects a regional political will to elevate water issues from the traditional technical level to the more influential political level. Establishment of the Council also reflects an interest in dealing with water issues of a regional nature, such as the management of shared water resources.

1. *Activities and resolutions of the Arab Ministerial Water Council*

8. The Statutes of the Council require regular meetings to be held annually and provide for exceptional meetings as and when the need arises. The regular sessions of the Council are generally scheduled mid-year (in June or July) at the headquarters of the League of Arab States in Cairo, unless one of its member countries wishes to host the meeting. Since its establishment, the Council has held two regular meetings; the first was hosted by the Algerian Ministry of Water Resources (Algiers, 29-30 June 2009) and the second at the headquarters of the League of Arab States (Cairo, 1-2 July 2010).

9. Of the resolutions passed by the Council, at least two have been directly related to the cooperation and management of shared water resources, while another four have dealt with the issue indirectly.⁸ This emphasis on shared water was to be expected, since cooperation on shared water resources is by default an issue of regional concern. More specifically, in terms of the Council resolutions which deal with shared water resources, three items will be discussed in greater detail as a result of the direct involvement of ESCWA in their implementation. Two of these items are discussed in paragraphs 10 and 11, while the third is discussed in section C of chapter III.

10. Item 1 of resolution 5 adopted at the first meeting of the Council in Algiers calls for the Center of Water Studies and Arab Water Security (a League of Arab States institution based in Damascus) to undertake a thorough review of the draft articles of the law of transboundary aquifers, which is the subject of the 2008 United Nations General Assembly resolution of the same name.⁹ In responding to the Council

⁵ <http://www.Desaldata.com>.

⁶ In addition to the main Ministerial Council of Foreign Affairs, the League of Arab States has ministerial Councils for media, interior, justice, housing, environment, telecommunications, electricity, tourism, social affairs, youth and health.

⁷ http://www.arableagueonline.org/las/arabic/categoryList.jsp?level_id=85. (Only available in Arabic).

⁸ League of Arab States, 2009, *Report and Resolutions of the Arab Ministerial Water Council First Session (Algiers, 27-28 June 2009)* (Only available in Arabic). and League of Arab States, 2010, *Report and Resolutions of the Arab Ministerial Water Council Second Session (League of Arab States, 1-2 July 2010)*. (Only available in Arabic).

⁹ A/RES/63/439.

resolution, the Center organized a meeting of experts and representatives of the Arab countries and regional organizations (Damascus, 21-22 December 2009) to review and discuss the draft articles of the law of transboundary aquifers with the aim of (a) assessing the extent to which it serves to benefit and protect the water rights of the Arab region and (b) reaching a unified regional position on the draft articles. Given the direct link between the themes and objectives of that meeting and an expert group meeting (EGM) organized by ESCWA earlier in the month entitled *Applying IWRM Principles in Managing Shared Water Resources: Towards a Regional Vision* (Beirut, 1-3 December 2009), and further to a request from the Center, ESCWA agreed to contract a consultant to carry out a review of the draft articles, highlighting their implications for Arab water rights, to be presented as a key background paper at the meeting organized by the Council, at which ESCWA also presented the outcome of its EGM. That meeting concluded with a set of comments and proposed changes to the draft articles. Although it is not currently possible to modify the draft articles, the General Assembly resolution calls for the inclusion of the law of transboundary aquifers in the provisional agenda of its sixty-sixth session (New York, 13 September-28 December 2011) with a view to examining the form that the draft articles might take. This will offer an opportunity for the region to engage in the discussions and introduce the changes proposed at the meeting of the Council.

11. Item 1 of resolution 6 adopted at the first meeting of the Council called for a review of the United Nations Convention on the Law of the Non-navigational Uses of International Watercourses.¹⁰ In a follow-up resolution of the Executive Bureau of the Council at its first meeting (Cairo, 27-28 January 2010), the Bureau invited the Technical Secretariat of the Council and the Center of Water Studies and Arab Water Security to organize a meeting of regional experts and country representatives to be used as a platform for the Arab countries to exchange views and share positions on the Convention.¹¹ In response, the Center organized a meeting (Damascus, 24-25 May 2010) at which, in recognition of the working relations and cooperation between ESCWA and the Center, ESCWA was invited to make a key background presentation on the regional implications of the Convention. Given the divergent positions of member countries on the Convention, the meeting was unable to achieve its objective of converging views and positions, but offered a forum for countries to set out their views and argue their positions. By the end of the meeting, two clear positions had emerged, one calling for the immediate ratification of the Convention by all countries of the region¹² and the other calling for the need to amend the Convention by including the concept of holistic integrated drainage basin management and the reinforcement of the legality of historic agreements.

12. The activities outlined above clearly show the added value of the new regional institutional set-up, represented by the AMWC, which has been able to utilize its regional outreach and political coverage to bring together the various parties (countries, organizations and other stakeholders) to formulate regional positions. The success criteria by which the Council should be judged is not the outcome of meetings, but rather its ability to utilize a process that allows it to initiate difficult discussions from a regional perspective. It is the institutional set-up and officially-sanctioned political power which enable it to maintain momentum in tackling difficult and politically unpopular issues. Difficult issues, such as the management of shared water resources, will remain on its agenda for many years to come.

2. Supporting institutions

13. In recognition of the fact that the Council and its Executive Bureau¹³ are political entities comprising member State representatives, the League of Arab States serves as the Technical Secretariat of the Council and provides logistical and administrative support to the Council and its Technical, Scientific and Advisory

¹⁰ League of Arab States, 2009, op. cit.

¹¹ League of Arab States, 2010, op. cit.

¹² The Arab countries that have ratified the United Nations Convention on the Law of the Non-navigational Uses of International Watercourses are Iraq, Jordan, Lebanon, the Libyan Arab Jamahiriya, Qatar, the Syrian Arab Republic and Tunisia.

¹³ The Executive Bureau has a two year term and comprise representatives of nine countries: three chairing the Summit (current, previous and forthcoming), three elected and three on the basis of alphabetic rotation.

Committee.¹⁴ The Technical Committee is invited to discuss the topics and issues identified during the meetings of the Council biannually, recommend appropriate courses of action and report its recommendations to the Executive Bureau. This may involve mandating one or more members of the Committee to conduct additional research.¹⁵ The Executive Bureau deliberates the recommendations of the Technical Committee and passes resolutions accordingly. The resolutions of the Executive Bureau, which are primarily related to the progress made in the implementation of Council resolutions, are followed up and discussed during the annual meeting of the Council.

B. ARAB WATER SECURITY STRATEGY

14. The first Arab Economic and Social Development Summit (Kuwait, 19-20 January 2009) mandated the AMWC to prepare a regional strategy for Arab water security. Despite its title, the strategy drafted by the Arab Center for the Studies of Arid Zones and Dry Lands (ACSAD) includes a wide range of water-related issues covering most of the components and principles of integrated water resources management. It is expected that the Council will adopt the final version of the strategy in December 2010 and will submit it to the next Arab Economic and Social Development Summit (scheduled at Sharm el-Sheikh, Egypt, 19 January 2011). As far as shared water resources are concerned, the strategy highlights the political tensions that result from the absence of clear treaties and agreements to regulate their allocation, and stresses that unless this is achieved, tensions will continue to threaten stability in the region. The strategy also underscores the situation in the occupied Arab territories,¹⁶ where water resources are being unlawfully utilized by Israel, while Arab residents are deprived of the right to access their own water resources. The strategy also acknowledges the need for a sound foundation for the management of water resources which are shared between countries within the region and emphasizes the need for clear tools to facilitate agreements between countries on the basis of fair allocation mechanisms, so as to ensure an equitable share of international and transboundary water resources, thus providing benefits for all.¹⁷

II. INTERNATIONAL LEGAL INSTRUMENTS ON SHARED WATER RESOURCES

A. GUIDING PRINCIPLES OF EXISTING LEGAL INSTRUMENTS

15. The United Nations General Assembly adopted the Convention on the Law of the Non-navigational Uses of International Watercourses in 1997, and the resolution on the law of transboundary aquifers in 2008. Additionally, there are a number of "soft", non-binding legal instruments (including rules, declarations and statements) dealing with shared water for non-navigational uses. In the main, such documents have been prepared by two reputable NGOs: the Institute of International Law and the International Law Association. Of the various soft legal instruments, the 1966 Helsinki Rules on the Uses of the Waters of International Rivers are probably the most extensive and formed the basis for the subsequent United Nations Convention on the Law of the Non-navigational Uses of International Watercourses.^{18,19} The guiding principles included in the above international legal instruments can be summarized as follows:

¹⁴ Members of the committee include technical representatives drawn from the member States of the League of Arab States, expert representatives of regional organizations, and expert representatives of a number of non-governmental organizations (NGOs). ESCWA is also represented on the Committee.

¹⁵ Meetings of the Technical Committee are scheduled to precede those of the Executive Bureau, which also meets on a biannual basis.

¹⁶ According to the strategy the Arab occupied territories include the Palestinian occupied territories, the Syrian Golan, and certain areas in southern Lebanon.

¹⁷ Ibid, p. 4.

¹⁸ Salman, S., 2007, "The United Nations Watercourse Convention Ten Years Later: Why has its Entry Into Force Proven Difficult?", *Water International*, 32 (1): 1-15.

¹⁹ Seligman, D. et al., 2008, *World's Major Rivers: An Introduction to International Water Law with Case Studies*, (Las Vegas, Nevada: Colorado River Commission of Nevada).

- (a) The general obligation to cooperate;
- (b) Data management (monitoring and the exchange of data and information);
- (c) Timely notification of planned measures;
- (d) Negotiations and agreements;
- (e) Management and protection of shared resources;
- (f) Dispute prevention and resolution;
- (g) Environmental protection;
- (h) Sovereignty over shared resources;
- (i) Equitable and reasonable utilization;
- (j) The obligation not to cause significant harm.

B. SOVEREIGNTY VERSUS TERRITORIAL INTEGRITY

16. Of the above general principles, it would appear that the general obligation to cooperate is the least contentious, being widely accepted by countries, although it should be noted that while certain countries agree to the principle in general, they have more conservative views on the degree of detail which should be included in any legal instrument at the broader international level, such as a framework convention. The final three general principles in particular have been a source of contention, leading in some part to the current status of the United Nations 1997 Convention on the Law of the Non-navigational Uses of International Watercourses, which, 13 years after the resolution was adopted by the General Assembly, has only been ratified by 20 countries. Ratification by at least 35 States Members of the United Nations is required for the Convention to enter into force.

17. In general, the position of riparian countries on these principles is primarily determined by their geographical location. Upstream countries tend to opt for the inclusion of the sovereignty principle, which gives them greater control over shared resources.²⁰ Although the sovereignty principle is aligned with the Charter of the United Nations, unlike land and fixed borders, water resources are of a mobile nature, distributing benefits across borders. As such, sovereignty over them is more likely to be limited. Following this argument, downstream countries are generally against the inclusion of the sovereignty principle in legal instruments,²¹ putting greater emphasis on absolute territorial integrity as the overriding principle determining water allocation between riparian countries. Upstream countries naturally object to such interpretation and tend to adopt a position which gives more weight to the sovereignty principle, or, failing that, one which emphasises the equitable and reasonable utilization principle, in the belief that this gives them an edge over downstream countries.²²

C. PRINCIPLES OF EQUITABLE UTILIZATION AND NO SIGNIFICANT HARM

18. From a general reading of country positions on the equitable and reasonable utilization principle, it would appear that all countries are in agreement on its notions of equity and fairness, but differ significantly on the weighting which they would give to the various factors that determine an equitable and reasonable utilization of a shared water resource. The extent of these differences is magnified by the fact that existing United Nations legal instruments specify a wide range of different factors to be considered in defining and identifying an equitable and reasonable use of shared water resources.^{23, 24} It is understandable that consensus building during the deliberations on the Convention at the wider international level (the United Nations Sixth

²⁰ Ibid. p. 6.

²¹ McCaffrey, S. 2009, "Current Developments: The International Law Commission Adopts Draft Articles on Transboundary Aquifers", *The American Journal of International Law*, 103 (2): 272.

²² Ibid. p. 6.

²³ United Nations Convention on the Law of the Non-navigational Uses of International Watercourses.

²⁴ United Nations General Assembly resolution 63/124 on the law of transboundary aquifers.

Committee (Legal) and at the General Assembly) would opt for reaching agreement by taking the concerns of all objecting countries into account by increasing the list of factors that define “equitable” and “reasonable”, and which determine the allocation made to each of the riparian countries. It is believed that once the factors determining equitable and reasonable utilization have been formulated in a manner that clarifies the allocation process, thus quantifying the share of each riparian country, the current debate on the supremacy of the two main principles – equitable and reasonable utilization and no significant harm – on each other will become irrelevant.

19. Surprisingly, many of the efforts aimed at bringing the United Nations Convention on the Law of the Non-navigational Uses of International Watercourses into force have focused on campaigns to encourage countries to ratify, rather than exploring practical ways in which common ground could be found between the two opposing positions. It is believed that developing a methodology to consolidate and weight the various factors that determine equitable and reasonable use can achieve this objective, leading to an equitable and fair approach to water allocation. Even if the Convention were to enter into force, without a clear, simple methodology to define equitable and reasonable use of shared water resources, it would remain limited in its application and effect. However, this does not detract from the argument in favour of the need for greater flexibility at the global level, while the consolidation and grouping of factors can still be sought at the regional and basin levels.

D. ALLOCATION AND COOPERATION

20. Some may argue that an approach focusing on the allocation of shared water resources is not appropriate at a time when integrated basin level management and the notion of stakeholder participation, and thus cooperation constitute cornerstones within the IWRM rationale. In response, although IWRM principles constitute a logical framework for water management, given the regional specificities (which include insecurity of water rights; the vulnerability of downstream riparian countries; growing water scarcity [compounded by the adverse impact of climate change]; a power imbalance that favours non-Arab upstream countries; a tradition of agricultural-based economies; unclear national and regional food security policies; political tensions and instability; and a lack of trust both between the countries of the region and with upstream non-Arab countries), it is clear that the region would opt for more secure water rights to shared resources through a clear allocation formula. An example of such fears and concerns is the 1992 declaration of the former Turkish president, Sulaiman Demirel, that “Neither Syria nor Iraq can lay claim to Turkey’s rivers any more than Ankara could claim their oil [...] The water resources are Turkey’s, the oil resources are theirs [the Arabs’]. We don’t say we share their oil resources, and they cannot share our water resources”.²⁵ Another example is the current position of the upper Nile basin riparian countries, which are pushing for a basin-wide agreement while failing to take into consideration the lack of enforceability of previous agreements. The perception of power that upstream countries believe they possess is precisely why the Arab region in general, and certain countries within the ESCWA region in particular, would place greater emphasis on a fair and equitable concrete allocation mechanism, rather than following a more elusive modality under the banner of cooperation. This analysis does not intend to compare the concepts of allocation and cooperation, or to opt for one over the other, but argues that, in the light of the specificities of the region, clear allocation mechanisms should be embedded within wider cooperation on socio-economic development in general and integrated management of shared water resources between riparian countries in particular.

E. STRENGTHENING THE LEGAL POSITION OF THE ARAB COUNTRIES

21. Although the two main principles of equitable and reasonable utilization and no significant harm are both included in the two United Nations legal instruments, namely the Convention on the Law of the Non-navigational Uses of International Watercourses and the law of transboundary aquifers, deeper analysis

²⁵ Quoted in Dolatyar, M. and Gray, T.S., 2000, *Water Politics in the Middle East: A Context for Conflict or Cooperation?*, London: Macmillan Press, p.148. Available at: www.thecornerhouse.org.uk/sites/thecornerhouse.org.uk/files/IraqSyri.pdf.

reveals that they cannot be considered to have the same level of importance and that one would override the other if a situation were to call for such a comparison. Indeed, it has been argued that the principle of equitable and reasonable utilization overrides all other principles, thus determining the allocation process. This reading was confirmed by the International Court of Justice in its ruling on the Danube River Case (Hungary vs. Slovakia) in 1997.²⁶ The opinion handed down by the Court referred twice to the rule of equitable utilization, but did not mention the no significant harm rule, despite the reliance of the defence on it. This tends to confirm that the principle of equitable utilization takes precedence, and that avoiding harm is to be considered only in analyzing whether a particular use or pattern of use is equitable. The International Court of Justice has thus set a legal precedent on the comparative weight of the two principles.

22. In order for the Arab region to strengthen its position, it would need to try to strengthen the position of downstream riparian countries in general indirectly. For that to happen, the region as a whole needs to reach a common position on a number of issues, including their stance on the United Nations Convention on the Law of the Non-navigational Uses of International Watercourses. Despite the fact that certain countries view the Convention as falling short of their expectations (particularly in abandoning the concept of integrated basin management, while focusing only on the portion of water resources that flow in the watercourse), it is believed that if the Convention were to enter into force, the principle of no significant harm would gain a higher legal standing, allowing for a more favourable negotiating position for the countries of the region in bilateral operational agreements.

23. Another strategic approach that the region could pursue to strengthen its downstream position is the development of a common vision that unites national positions across the region in a clear, legally-binding format, to be used initially to institutionalize the cooperation, management and allocation of shared water resources between countries in the region, thus setting the legal ground rules for the inclusion of non-Arab countries in the future. The initiative taken by the AMWC to prepare a regional legal framework for shared water in the Arab region is a step in this direction. In order for the regional legal framework to gain the necessary credibility, it would need to incorporate not only the outer appearance, but also the inner soul and essence of the notions of fairness and equity. For the region to develop such a framework, certain countries would need to realign their policies with the guiding principles constituting the framework. In doing so, the region would have to come to terms with the realistic potential of its share of existing international resources and develop its water supply policies and plans accordingly. Given the exponential growth in demand for water currently being experienced, many countries will need to optimize the use of all available water resources technically, socially and economically, including their part of shared resources, while at the same time planning for the development of more expensive non-conventional water resources.

III. TOWARDS DEVELOPING A LEGAL FRAMEWORK FOR SHARED WATER RESOURCES IN THE ARAB REGION

A. REGIONAL SPECIFICITIES

24. The issue of management of shared water resources has been part of the work programme of the ESCWA Water Resources Section (WRS) for many years. ESCWA has thus examined many relevant issues for the Arab region in the field of water management, ranging from the need to identify the legal aspects that influence the management of shared water resources to the preparation and adoption of a regional mechanism for cooperation on shared aquifers and has consistently sought to build the capacity of the countries of the region in such areas of shared water resources as negotiation skills and knowledge management.^{27, 28} During the biennium 2009-2010, WRS examined the legal and institutional capacity for

²⁶ GabCikovo-Nagymaros Project (Hungary/Slovakia), Judgment, I. C. J. Reports 1997, p. 7.

²⁷ ESCWA, 2001, *Report of the Expert Group Meeting on Legal Aspects of the Management of Shared Water Resources* (E/ESCWA/ENR/2000/1).

²⁸ ESCWA, 2003, *Report of the Workshop on Legal Framework for Shared Groundwater Development and Management in the ESCWA Region* (E/ESCWA/SDPD/2003/WG.4/L.1).

shared water resources management in the region and fostered region-wide discussion on the potential preparation of a regional legal framework to facilitate cooperation on shared water resources. Activities in such areas were primarily undertaken through EGMs, training workshops, studies, publications, advisory services and the initiation of pilot field projects aiming to enhance the monitoring capacity of shared water resources in selected member countries.²⁹

25. In linking IWRM principles to the management of shared water resources, ESCWA organized the EGM on applying IWRM principles in managing shared water resources with the aim of reaching consensus on a joint vision that could lead to the adoption of a regional cooperation framework for managing shared water resources. The meeting, which was organized in collaboration with the German Federal Institute for Geosciences and Natural Resources (BGR), focused on international legal principles that can be drawn upon to support the management of shared water resources and concluded by highlighting the need for the development of a regional strategic vision and associated operational mechanisms.

26. There is a need to improve understanding and clarify regional perspectives on the international water law principles that have been developed over the last thirty years. Regional consensus on such principles would help to unify perceptions on the joint management of shared water resources and could lead to the preparation of new operational regimes or the formalization of existing agreements. Fostering a common vision on shared water resource management in the Arab region would clearly support this goal, but it is equally important to raise awareness and understanding of international water law principles based on regional specificities. Such a process should also seek to engage stakeholders in dialogue on the ways in which such principles can guide the management of shared water resources in a regional context in a manner that takes into consideration IWRM principles, and in particular the need for effective legal and institutional frameworks.

27. Regional specificities are those conditions and issues that characterize the region in relation to water management. In the ESCWA region, these include the severe level of water scarcity; the large variations between the economies of the region; political tensions, instability and a sense of vulnerability; domination of agricultural-based employment (subsistence farming); and national food security policies dominated by internal agricultural production. These issues and others determine the way in which the countries of the Arab region in general and ESCWA member countries in particular view and manage both internal and shared water resources. In Yemen, for example, the policy of promoting irrigated agriculture as a means of economic growth as well as an element of the wider food security strategy during the 1980s has led to a depleting trend for most of its highland non-renewable aquifers. Similarly, during the last three decades of the twentieth century, Saudi Arabia pursued a food security policy that offered major financial incentives for internal wheat production, which in turn led to declining groundwater storage. Although agriculture is not a major contributor to the economies of the ESCWA region, accounting for less than 15 per cent of GDP in most member countries (with the exception of the Syrian Arab Republic and the Sudan, where it represents 20 per cent and 25 per cent respectively), the agricultural sector is considered to be a key sector in poverty reduction, since it accounts for a quarter of the total labour force across the region. Collectively, in the populous and lower-income countries of the ESCWA region (Egypt, the Sudan, the Syrian Arab Republic and Yemen), the agriculture sector employs almost 92 per cent of the total labour force working in agriculture in all 14 member countries.³⁰ Another feature of irrigated agriculture in the region is low water use efficiency, which stands at 40-50 per cent and which leads to high levels of water and soil degradation. Given that agriculture uses more water than any other sector, accounting for between 45 and 90 per cent of all fresh water withdrawals, an improvement in water use efficiency to 60-70 per cent through the adoption of modern irrigation technology could liberate 10-30 per cent of all current agricultural water withdrawals for other sectors without adversely affecting agricultural productivity, while at the same time delaying the need to invest in developing additional water resources.

²⁹ These field projects are conducted through the ESCWA-BGR collaborative water project.

³⁰ Data on employment in the agricultural sector are derived from the Food and Agriculture Organization of the United Nations Aquastat website: www.fao.org/nr/water/aquastat/data/query/index.html.

B. ADDED VALUE OF REGIONAL LEGAL INSTRUMENTS

28. While water-related international legal instruments such as the United Nations Convention on the Law of the Non-navigational Uses of International Watercourses, the draft articles of the law of transboundary aquifers, and international customary water law provide a global guiding framework at the international level, regional legal instruments generally provide practical measures at the regional level and guidance on how regional goals can be achieved. There are many regional examples that demonstrate the added value that regional frameworks and agreements on shared water resources have contributed to more effective water management. Such regional legal instruments include the United Nations Economic Commission for Europe (ECE) Convention on the Protection and Use of Transboundary Watercourses and International Lakes,³¹ the European Union water framework directives, the Southern Africa Development Community (SADC) Water Protocol³² and the Senegal River Convention.³³ While all these regional legal instruments generally aim to enhance water management and are mostly guided by international legal instruments and international customary water law, they tend to place greater emphasis on issues specific to their particular region. An example is the focus of the ECE water convention on environmental protection, pollution control and water quality issues, with less emphasis on water allocation, which reflects the natural, social and political setting of the region.

29. A review of the SADC Water Protocol³⁴ reveals that it has served as a framework for subsequent operational basin level agreements in the region since 2000. The lessons learned from the review of the Protocol include the following : (a) Southern African States can successfully conclude basin level agreements that establish a number of river basin organizations and commissions,³⁵ which enhance communication between riparian States, coordination of joint studies and projects and, ultimately, integration of policies on the management of shared water resources; (b) the institutional framework of SADC has proven effective for the implementation of the Protocol and encouraged member States to coordinate policies and programmes. The Institutional set-up (at the ministerial level, the senior official committee level and the SADC Secretariat) has been key to the successful implementation of the Protocol; (c), the Protocol, in conjunction with the SADC tribunal, provides a dispute prevention and resolution mechanism. The tribunal allows SADC member States to develop a series of legally binding procedures and the very existence of the tribunal suggests an advanced level of regional integration; (d) the Protocol has encouraged member States to reform their domestic water legislation. Water laws in many member States were outdated and failed to recognize the need for international cooperation and the international obligations which arose from the Protocol. This improvement in domestic water legislation in SADC member States, in turn, has reinforced the implementation of the Protocol; (e) some of the Protocol-based agreements contain explicit water allocation rules. While the Protocol sets general principles of water resource allocation, the development and enforcement of actual allocation rules indicate a high level of integration on shared water resource management within the SADC region; and (f) the success of SADC in shared watercourse management would not have been possible without the active participation of States in the region. While the political will of member States and clear recognition of the need for regional cooperation are clearly important, it is critical to maintain the power balance between member States, so that smaller and weaker countries can

³¹ Available at: <http://www.unece.org/env/water/>.

³² SADC, 2000: *Revised Protocol on Shared Watercourses*. Available at: www.sadc.int/index/browse/page/159.

³³ Organization for the Development of the Senegal River, 1972, *Convention Concerning the Status of the Senegal River*. Available at: <http://www.tematea.org/?q=node/6588&PHPSESSID=3a984331a4ffd7d97b9208da6991b10f>.

³⁴ During the December 2009 ESCWA EGM entitled *Applying IWRM Principles in Managing Shared Water Resources: Towards a Regional Vision*, certain members of the Water Resources Committee requested ESCWA to prepare a review of the SADC Water Protocol. Further detail on the review produced in response to that request is included in a separate document for the consideration of the Committee.

³⁵ Examples of river basin organizations include the Orange-Senqu River Commission (Botswana, Lesotho, Namibia and South Africa, 2000), the Limpopo Watercourse Commission (Botswana, Mozambique, South Africa and Zimbabwe, 2003) and the Zambezi Watercourse Commission (Angola, Botswana, Malawi, Mozambique, Namibia, Tanzania, Zambia and Zimbabwe, 2004).

voice their position in shared water resources management. Through the adoption of a unanimous voting system, SADC has protected the interests of smaller States and promoted a peaceful negotiation approach to solving differences.

C. PREPARATION OF A REGIONAL LEGAL FRAMEWORK FOR SHARED WATER RESOURCES

30. In view of the efforts pursued by the AMWC to advance the issue of cooperation over shared water resources within the Arab region and in order to establish a sound legal basis to regulate the nature and modality of such cooperation, the Council, at its second session, passed the following resolution:

*"[To] invite the Center of Water Studies and Arab Water Security and the United Nations Economic and Social Commission for Western Asia (ESCWA), in coordination with the Arab Center for the Studies of Arid Zones and Dry Lands (ACSAD) and the Stockholm International Water Institute (SIWI) to prepare a draft legal framework on shared waters within the Arab Region for its discussion during the next meeting of the Technical Scientific Advisory Committee of the Ministerial Council in January 2011."*³⁶

Arab Ministerial Water Council, resolution 4, item 3.

31. This action by the Council may be viewed as a major step towards improved legal arrangements between the member countries of the League of Arab States. The region would have the chance to position itself clearly with regard to the management of shared water resources, not only on the wider regional level (between the region and its bordering non-Arab countries), but also between the countries of the region. It is understood from the discussions of the Committee members and the wording of the above resolution that the ultimate aim of the proposed legal framework is to serve as a guide that sets out the main principles upon which the cooperation, management and allocation of shared water resources between riparian countries and aquifer States are to be based, recognizing that shared water resources comprise both surface water and groundwater, both renewable and non-renewable, that exist or flow across or along common national borders of two or more countries.

32. While the Council resolution calls for the preparation of a legal framework, giving the impression of an invitation to the mandated organizations to start the process of drafting the articles of a binding legal instrument in the form of a convention or a treaty, it is contended that certain basic considerations need to be considered prior to the drafting stage of a legal framework of this nature. An initial two-phase approach to implement the resolution has therefore been proposed by ESCWA.

1. PHASE I (JULY 2010 - DECEMBER 2010)

33. During this phase, a thorough analytical review of the direction of and underlying rationale behind guiding principles of cooperation, management and allocation of shared water resources within the various existing bilateral, regional and international legal instruments (treaties, conventions and agreements) will be undertaken. The objective of the review is to identify, highlight and propose a set of guiding principles to serve as a basis for the regional legal framework on shared water resources within the Arab region. In order to achieve the objective of the study, regional specificities will need to be identified and incorporated within the analysis. Prior to the second phase, it is vital that the Technical Committee, at its next scheduled meeting in February 2011 reach consensus on the proposed guiding principles as well as the format of the legal framework (declaration, convention, treaty or other format), as this will have an impact on issues including the structure, level of detail and institutional requirements to be considered in the drafting of the articles. It is envisaged that the Technical Committee recommendations will be discussed and approved by the Executive Bureau at its next scheduled meeting in February 2011.

³⁶ League of Arab States, 2010, op. cit.

2. PHASE II (JANUARY 2011 - JULY 2011)

34. Based on the recommendations of the Technical, Scientific and Advisory Committee and the directions of the Executive Bureau, during the second phase, ESCWA, in consultation with the other organizations included in the Council resolution, will aim to build consensus around the proposed set of guiding principles at a meeting of country representatives as a step towards the drafting of the legal framework before it is presented to the Council for approval and ratification.

IV. CONCLUSIONS

35. The important role that water plays, directly and indirectly, in the socio-economic development of any country is uncontested. In countries where the main employment opportunities, both formal and informal, are mostly in agriculture in the form of subsistence farming, the little annual rain is less predictable as a result of shifting patterns resulting from possible climate change impact, with population growth increasing at above global average rates, it is anticipated that Governments of such countries will naturally try to establish and protect rights to their share of shared water resources by all means possible. Recognizing that the majority of renewable water resources in the Arab region in general and certain ESCWA member countries in particular originate outside national borders creates a sense of vulnerability in those countries, accompanied by an understandable urge to institutionalize an allocation mechanism that guarantees their fair share of such shared water resources. These countries realize that time is not in their favour, not only as a result of the growing demand for water flowing from population growth, but also because certain upstream countries have devised plans for water-intensive economic activities, such as the Southeastern Anatolia Project (GAP) in Turkey. Therefore, the sooner they are able to agree upon a binding allocation mechanism of shared water resources, the better and more secure such countries become.

36. It goes without saying that water, particularly shared water, is in great part a political issue which requires a multidimensional approach to resolve its complex multiple layers. This approach has been termed "hydro-diplomacy" and requires both strong political will and clear, multisectoral integrated planning, since the solution to most water-related issues lies outside the water sector. Certain regional initiatives, both at the bilateral level and at a more collective level, lack a unified regional vision on water-related issues, particularly those involved in the allocation, management and cooperation of shared water resources. The initiative of the newly-established AMWC to prepare an Arab water strategy should be viewed as a step in the right direction. From an institutional perspective, the formation of the Council is in itself also a development worthy of recognition, provided that it capitalizes on the opportunity to utilize its political power and outreach effectively in order to advance the water sector through clearly-defined short, medium and long-term plans and goals. The Council's initiative in preparing a regional legal framework that clarifies the norms and rules governing allocation, management and cooperation of shared water resources between the countries of the region is also a step in the right direction. The legal framework will need to take the specificities of the region into consideration and incorporate not only the outward appearance, but also the inner soul and essence of the notions of fairness and equity for all riparian countries. With these prerequisites, a framework of this nature would strengthen the position of the region globally and provide it with additional credibility on the international stage.

37. In the light of the above and in view of the importance of shared water to the region, members of the ESCWA Committee on Water Resources are invited to play a greater role, both individually and collectively, in supporting the formulation process of the legal framework, in recognition of the resolution of the Arab Ministerial Water Council mandating the Center of Water Studies and Arab Water Security and ESCWA to take the lead in the preparation of the legal framework.
