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REPORT

EXPERT GROUP MEETING ON APPLYING IWRM PRINCIPLES IN MANAGING SHARED WATER RESOURCES: TOWARDS A REGIONAL VISION BEIRUT, 1-3 DECEMBER 2009

Summary

The Expert Group Meeting on Applying IWRM Principles in Managing Shared Water Resources: Towards a Regional Vision was organized in collaboration with the Federal Institute for Geosciences and Natural Resources in Germany (BGR) from 1 to 3 December 2009 in Beirut, Lebanon. The aim of the meeting was to reach consensus on a joint vision that could lead to the adoption of a regional cooperation framework for managing shared water resources in the region. This meeting comes after several ongoing initiatives undertaken by the Economic and Social Commission for Western Asia (ESCWA) and its partners to strengthen the capacity of member countries in developing and implementing integrated water resources management (IWRM) plans and to promote cooperation among member countries on shared water resources.

The meeting focused on international legal principles that can be drawn upon to support the management of shared water resources. These were clustered into three main themes: (a) cooperation and participation; (b) equitable, reasonable, and sustainable use; and (c) conflict prevention and resolution. In-depth discussions and experience-sharing took place during plenary and working group sessions. Participants concluded with a set of recommendations on the aforementioned themes and proposed the development of a strategic vision and operational mechanism for formalizing this regional vision on shared water resources management.

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Introduction

1. The United Nations General Assembly has put forward two major legal instruments for managing shared surface and groundwater resources: (a) the Convention on the Law of the Non-navigational Uses of International Watercourses and (b) the Resolution on the Law of Transboundary Aquifers. Both instruments propose legal frameworks based on a number of principles. Among those are the principles of equitable and reasonable utilization, the obligation not to cause significant harm, and the obligation to cooperate. While these principles are widely accepted for international surface waters, and are considered to be part of international customary law, this is not the case for transboundary aquifers, as there is still not enough State practice regarding the application of these principles to transboundary aquifers. The adoption and operationalization of these principles have been successfully pursued in such other regions as Europe and the Southern African Development Community (SADC) through regional conventions and basin-level agreements. A handful of multilateral and bilateral agreements on shared water resources have also been signed in the Arab region that draw upon these international legal principles, albeit on a limited basis.

2. Accordingly, there is a need to improve the understanding and to clarify regional perspectives on the international water law principles that have been developed over the past thirty years. Regional consensus on such principles can assist to unify perceptions regarding 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 can support this goal, but should first seek 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 how such principles can guide the management of shared water resources within a regional context in a manner that takes into consideration the principles of integrated water resources management (IWRM), and particularly the need for effective legal and institutional frameworks.

3. In order to support the above efforts, the Economic and Social Commission for Western Asia (ESCWA) and the German Federal Institute for Geosciences and Natural Resources (BGR) jointly organized an expert group meeting from 1 to 3 December 2009 in Beirut, Lebanon, on shared water resources management. The major objectives of the meeting were to:

(a) Provide a forum for discussion on the linkages between the main principles of international water law and IWRM principles within a regional context;

(b) Identify ongoing and planned initiatives, opinions, interests and needs from the participants, and discuss challenges to promoting IWRM in shared water resource management;

(c) Identify opportunities, synergies and ways of coordination towards improved cooperation for the integrated management of shared water resources.

4. The meeting was organized into plenary and working group sessions that allowed for in-depth discussions and experience-sharing on international water law principles. During the meeting, experts from member countries and the international community discussed, examined and reached consensus that a regional vision which draws on international water law principles within a regional context would serve to guide shared water resource management within IWRM concepts in the Arab region.

I. CONCLUSIONS AND RECOMMENDATIONS

5. The experts participating in the meeting appreciated the review and forum for discussion fostered by ESCWA and BGR on managing shared water resources within the context of IWRM and international water law. The main conclusions and recommendations of the meeting are provided below.

A. CONCLUSIONS

6. At the end of the meeting, the participants reached the following conclusions:

(a) Most freshwater in the ESCWA region (surface and groundwater) is derived from shared water resources. A mapping and inventory of shared water resources in the ESCWA region would increase understanding about these shared resources;

(b) The characterization, monitoring and assessment of shared river basins and transboundary aquifer systems are essential elements of the integrated management of shared water resources;

(c) Growing water scarcity and the heavy reliance of Arab countries on water resources that originate outside the region render the need for international and regional cooperative frameworks particularly important for the ESCWA and Arab region;

(d) International water law provides guidance for forging bilateral, multilateral and basin-level agreements on shared water resources, and has been embedded in regional cooperative frameworks as is the case in the United Nations Economic Commission for Europe (ECE) Water Convention and the SADC Protocol on Shared Watercourse Systems;

(e) Regional cooperative frameworks can facilitate and assist in the development of bilateral, multilateral and basin-level agreements on shared water resources and further cooperation, as illustrated by examples from other regions;

(f) Such catalysts for cooperation as joint assessments, data collection and monitoring programmes and infrastructure projects can be viewed as trust-building tools that can lead to formal agreements on shared water resources;

(g) There is a need to address interregional and intraregional cooperation on shared water resources in the Arab region. There is a higher likelihood to achieve positive outcomes among Arab countries given their common sociocultural bonds and values;

(h) It is important to consider the management of shared water resources within systems that extend beyond the watercourse itself to include the drainage basin and the socio-economic and natural environments. This has implications for the Arab region as the change in the quantity or quality of freshwater from shared river basins or aquifers can affect wetlands, coastal and marine ecosystems and such associated industries as desalination;

(i) Non-renewable transboundary aquifers are an important component of shared water resources in the region. Although they are not accounted for in the 1997 United Nations Watercourses Convention, they are addressed in the United Nations General Assembly Resolution on the Law of Transboundary Aquifers. Given their role as major water sources for millions of people, they should be included in operational agreements alongside surface and renewable aquifers, particularly in the ESCWA region;

(j) The criteria for determining equitable and reasonable use of shared water resources and the obligation not to cause significant harm are best applied in a contextual manner and on a case-by-case basis. This may take into consideration the accessibility, availability and capacity of countries to pursue the development of alternative water resources, such as desalinated water and treated waste water;

(k) In making water allocation decisions of shared water resources, priority should be given to meeting basic human needs. Allocation to other uses should take into consideration all factors attached to internationally accepted principles, with due attention to regional specificities;

(l) The water needs of ecosystems must be considered alongside other demands when deciding on the allocation of shared water resources;

(m) Adaptation to climate change impacts and responses to variability in water availability have to be incorporated into shared water resources management strategies as well as such other cross-cutting issues as food security;

(n) Geopolitics and power imbalance represent two of the major parameters that influence the development and outcome of the management, cooperation and conflict prevention and resolution of shared water resources.

B. RECOMMENDATIONS

7. Participants formulated the following recommendations to support the identification of the next steps towards the preparation of a common regional vision on the management of shared water resources:

(a) Further discussions on the formulation of a regional vision on shared water resources should be pursued at the expert level and at the higher Government/political level. These discussions should highlight the potential benefits of a regional cooperative framework;

(b) Regional specificities should be considered when incorporating international customary water law into cooperative frameworks at the bilateral, multilateral and basin/regional levels;

(c) Given the importance of groundwater resources to the region, discussion of the United Nations General Assembly Resolution on the Law of Transboundary Aquifers should be brought to the attention of the ESCWA Committee on Water Resources, and possibly at a higher regional political level to the Arab Ministerial Water Council;

(d) Opportunities for the exchange of best practices and experiences should be encouraged between regions on the management of shared water resources. Members of the ESCWA Committee on Water Resources should specifically examine the experiences of the SADC region;

(e) There is a need to improve data collection, monitoring and knowledge management of shared water resources based on a harmonized set of indicators and parameters for more informed decision-making;

(f) Mechanisms for information exchange should be established in the region. New information and communications tools can be used to improve access to and analysis of available data;

(g) Strengthening integrated water resources management and improved water governance at the national level is a prerequisite that would contribute to more effective management of shared water resources at the basin level;

(h) Further research on the opportunities presented by traditional approaches to water management and their application for shared water resources should be promoted;

(i) Capacity-building and institutional strengthening are necessary to advance cooperation and the management of shared water resources in the region. Guidelines on the management and operation of joint basin committees based on international and regional experiences should be formulated to assist member countries in strengthening their institutional capacities.

II. PRESENTATIONS AND DISCUSSIONS

8. The meeting started with the presentation of an overview of the ESCWA/BGR initiative to prepare an inventory of shared water resources in Western Asia. The aim of the study is to provide a consolidated source of information about surface and groundwater resources in the region in order to raise awareness, facilitate access to information and expose linkages between data sources and management mechanisms for shared water resources. The study compiles and builds upon information from primary and secondary sources, which are being verified and vetted with member countries and international experts. It is expected that this mapping exercise will result in a clearer picture of the number and status of shared water resources in the ESCWA region.

9. In the ensuing discussions, participants commended the efforts made towards the preparation of the mapping initiative and noted that such a comprehensive review of the status of shared water resources is long overdue. However, it was noted that care should be taken to ensure close consultation with member countries in order to obtain the most recent data and information available and secure the support for the mapping exercise.

A. SESSION 1: COOPERATION AND PARTICIPATION

10. In order to set the framework for discussion on international legal principles associated with the management of shared water resources, ESCWA presented an overview of the 1997 United Nations Convention on the Law of the Non-navigational Uses of International Watercourses and the United Nations General Assembly Resolution on the Law of Transboundary Aquifers. Although the two legal instruments remain non-binding, the major principles upon which they are based have become part of international customary law. Key principles were highlighted, including equitable and reasonable utilization, the obligation not to cause significant harm, and the obligation to cooperate, among others. Although these legal instruments are not yet in force, they are referred to in international legal jurisprudence and regional conventions, which are binding to signatory States.

11. Cooperation modalities for shared water resources management were also discussed during the first session by the International Hydrological Programme of the United Nations Educational, Scientific and Cultural Organization (UNESCO-IHP). It was noted that, while most countries of the Arab region are highly dependent on shared water resources, there are few cooperation agreements in place to manage surface water resources and only one agreement exists on shared aquifers, namely, the North Western Sahara Aquifer System. The presentation highlighted the existing references and tools at the international and regional levels, which are the United Nations Watercourses Convention (1997), United Nations General Assembly Resolution on the Law of Transboundary Aquifers (2008), United Nations ECE Water Convention (1992), and SADC Protocol on Shared Watercourse Systems (2000). The presentation highlighted that the major obstacles to adopting and implementing regional and basin-level agreements are the direct result of the situation at the national level where in most cases the national institutions in charge of water resources lack a clear mandate, which leads to overlaps and gaps, the lack of local/basin institutions, and the unfavourable political environment. Nevertheless, the national legal frameworks on water resources in many countries of the region have experienced some improvements. The development and implementation of joint projects on international waters can serve as a tool for building confidence among riparian countries, and raise awareness of the necessity to cooperate. The presentation finally reviewed a few successful case studies of cooperation from the Arab region and elsewhere.

12. The ECE process of pursuing and supporting a regional convention on shared rivers, lakes and aquifers was presented by the Global Water Partnership-Mediterranean (GWP-Med) on behalf of the ECE Convention Secretariat. The ECE experience exposed the benefits and services provided to signatory States of the Convention and the way in which the Convention has helped to foster greater understanding of and cooperation on shared water resources at the bilateral and multilateral levels. The presentation took note that the Convention was recently amended to allow all United Nations countries, beyond the ECE member States,

to become signatories and to benefit from the technical assistance provided by the Secretariat. It was noted that some of the obstacles to the implementation of regional cooperation initiatives on shared water include political tensions, mistrust and/or misperceptions, all of which could be overcome by building trust, identifying priorities, maintaining open lines of communication among all riparian countries at the technical and political/policy levels, and depoliticizing transboundary water management, to name a few.

13. During the ensuing discussions, it was noted that, although the United Nations Watercourses Convention is an important document, it remains non-binding and as such has only a moral authority. Such regional agreements as the ECE Water Convention complement these global instruments by providing institutional frameworks for operationalizing international legal principles through institutional structures that are responsive to the needs of member States. In developing a regional vision, there is thus a need to integrate the various regional factors, interests, and instruments into a unified set of guiding principles supported by all parties. Such a process needs clear national policies and adequate negotiating capacity. Managing shared water resources and ensuring cooperation is generally a challenging task and is increasingly difficult when dealing with transboundary aquifers due to the high complexity associated with groundwater recharge regimes.

14. Participants also noted that experience shows that most of the successful cooperation examples started with such joint activities as data collection, studies or investigations, monitoring programmes, and infrastructure projects. These activities seem to enhance communication, build trust, expose intentions, and allow for greater transparency and mutual understanding of concerns and interests. Sustained communication at the lower technical level provides an effective tool to reduce frictions at times of political tension. It was also suggested that joint activities and projects have to secure a more permanent institutional setup so as to ensure their continuity, and, in this regard, the provision of adequate budgets to such institutions is central to their sustainability. Participants stressed on the need for a binding regional legal instrument, noting that any legal instrument can always be amended to cater for unforeseen issues that may arise as a direct or indirect result of its implementation.

15. Discussion also revolved around the issue of capacity-building, particularly as it relates to the lack of appropriate data and information. This is especially important because several Arab countries are downstream countries and thus have to contend with the unwillingness of upstream countries to share data. As such, disclosure of available and reliable data is considered to be a key to successful negotiations and a factor that leads to enhanced cooperation.

16. A presentation on the review of the institutional development of the water sector in the Arab region highlighted the importance of shared water resources, for the region and the direct relevance this has for the application of international legal instruments that govern the use of international watercourses and transboundary aquifers. Given the magnitude of water scarcity that the region is facing and the fact that most available renewable water resources are shared among Arab countries or with neighbouring non-Arab countries, the need for a regional cooperation framework becomes apparent, with the League of Arab States offering a platform on which a common vision can be developed. Nevertheless, major challenges remain on dealing with neighbouring non-Arab countries. Furthermore, the presentation highlighted the growing political will to deal with water issues, as manifested by the recent establishment of the Arab Ministerial Water Council (AMWC) as an example.

17. In reviewing triggers and constraints of cooperation on shared water resources, it was noted that clarification of mutual interests is considered to be a strong trigger that leads to cooperation on managing shared water resources. To reach a state of acceptable cooperation, appropriate institutional arrangements are required to ensure equal participation and decision-making among all parties. Given the growing water scarcity in the region and the subsequent greater reliance on shared water resources, the potential for conflict and thus the cost of non-cooperation could be high. The key components to advance cooperation include stronger political will, shared vision and benefits, and a fair system of water allocation. In this regard, there is a need to emphasize the issues of water use efficiency within the context of its availability and to offer

various development options. Nevertheless, it was noted that, in many cases, the prevailing state of cooperation is usually related to the imbalance of power among riparian countries with the more powerful tending to act in a hegemonic manner.

18. In the discussions held at the end of the session, it was noted that the issue of power imbalance and geographical factors are important as most Arab countries are mostly downstream of the major international rivers of the region, and therefore do not have the means to guarantee adequate and continuous supply from these shared water resources. Some participants were of the opinion that the major challenge does not lie in reaching legal cooperation agreements among Arab countries, as disagreements or conflict can be resolved within existing dispute resolution mechanisms of the League of Arab States, but rather to secure agreements with countries from outside the region. Nevertheless, within the Arab region, countries should also try to cooperate more openly as there are many unresolved issues in the management of shared water resources. The crisis of Palestine was also highlighted as a well-documented example of power imbalance, as it has led to the deprivation of the Palestinians of their water rights.

19. Participants were divided into two working groups. Participants in Working Group 1A discussed the issues of scope and scale of cooperation and proposed the following recommendations:

(a) The available international legal instruments (United Nations Watercourses Convention and United Nations General Assembly Resolution on the Law of Transboundary Aquifers) should be reviewed and adapted, within a regional legal instrument for the interests of the region;

(b) The boundaries of shared aquifers and basins of the region should be well delineated;

(c) There is a need for a regional strategy or vision for the management of shared water resources based on a comprehensive assessment at the basin/aquifer level, involving member countries;

(d) Appropriate national strategies and policies should be developed in order to support the proposed regional strategy;

(e) Stronger political will could be achieved through such trust building activities as joint projects among riparian countries;

(f) It is important for the region to benefit and build upon best practices and examples from the region and elsewhere.

20. In Working Group 1B, participants deliberated on cooperation triggers and modalities and recommended the following:

(a) There is a need to enhance political awareness and in this sense the mapping exercise being conducted by ESCWA/BGR is a step in the right direction;

(b) There is always a need to include data management systems, with special emphasis on those connected to monitoring, in all cooperation modalities;

(c) Riparian countries would need to agree on the factors that determine water allocation between sharing parties, without negligence of environmental water needs;

(d) In certain cases, it might be advisable to start cooperating at the bilateral level before acting at the multilateral or basin levels;

(e) Technical and institutional capacity need to be reinforced in all countries of the region.

21. In the following plenary session, the issue of cooperation was discussed and participants agreed that IWRM principles have to be incorporated into the management of shared water resources. In order to reinforce regional integrated management of shared water resources, appropriate measures would have to be taken in order to collect the necessary data and information that could enhance cooperation. This could be extended to include the whole issue of sharing information, knowledge and expertise. It was also noted that bilateral agreements could be easily reached if compared to more complex multilateral/basin level agreements, particularly in those cases where strong economic and political ties already exist. Bilateral agreements are viewed to be an important first step in reaching a basin or regional consensus on the joint management of shared water resources. Furthermore, joint infrastructure projects are viewed to improve cooperation, especially that donors in most cases are ready to invest in or fund such projects. In fact, evidence shows that joint infrastructure projects usually lead to higher levels of cooperation, several examples of which are found in the region. Although lessons from cooperation modalities of other regions can be valuable, in many cases they cannot be readily transposed into the region due to apparent sociocultural and political differences, while for example European countries have a stronger political will to cooperate. It was pointed out, however, that the recently established AMWC is tackling the issue of shared water resources and Arab water security issues, and can therefore be a politically appropriate platform for a joint regional dialogue on a vision that leads to a binding regional cooperation legal framework and operational bilateral/basin agreements.

B. SESSION 2: EQUITABLE, REASONABLE AND SUSTAINABLE UTILIZATION

22. Factors that constitute equitable utilization of shared water resources were presented in the second session. It was noted that the issue of sovereignty is a contentious issue in most conventions. Additionally, the issue of superiority between different articles of the United Nations Watercourses Convention (1997), namely Article 5 on the equitable and reasonable utilization, and Article 7 on the obligation not to cause significant harm, was discussed in depth, and it was concluded that those articles should be viewed as general guiding principles, and an acceptable balance between the two should be reached during the development of operational agreements in accordance with the prevailing regional/basin, national and local conditions. Despite the fact that the currently available water-related international legal instruments are non-binding, some of their key principles are widely recognized and accepted as part of the international customary law and have been referred to at a ruling of the International Court of Justice. The session concluded that countries in the Arab region are more oriented towards bilateral agreements than multilateral or regional ones. Therefore, there is a need for universal norms that could be applied throughout the region to ensure the sharing of benefits and the sustainability of the resources.

23. The experience of the SADC region in shared water resources management was presented. The SADC Protocol on Shared Watercourse Systems is based on the United Nations Watercourses Convention, with additional institutional and operational elements that makes it more region-specific. For example, under the principle of equitable utilization, although each signatory is entitled to an allocation of water, the details are left to the basin riparian countries through a specified institutional arrangement to work out the details. There are frequent consultations both at regional and basin levels aimed at discussing appropriate management strategies. The SADC Protocol caters for groundwater without implicitly mentioning it, but a new groundwater-specific legal cooperation instrument is being developed. The success of the SADC Protocol can be attributed mainly to the strong political will that has been exhibited so far and the fact that the Protocol is subsidiary to an overall general SADC treaty, which deals more extensively with such issues as institutional modalities and enforcement mechanisms.

24. The presentation on the role of formal and informal religious, traditional and customary regulations in managing shared water resources in the region stressed on the fact that water is viewed as a public good in the Arab region. The basic premise of a sound water law is that there should be a balance between the concept of sovereignty and that of integrity. Public interest is defined in Islamic law (Sharia), which states that all communities should share water, allow for trade-offs between the public and private sectors,

minimize harm, and be based on equity and social justice, and as such align with the principles of the current international legal instruments.

25. In the following discussions, participants noted that, generally, the countries of the region are still unsure regarding the implications of adapting the various laws of the United Nations to the region. Although universal ranking and weighing of the various articles of the 1997 Watercourses Convention could add some rigidity and would lead to more resistance to its acceptance by many countries, doing the same with a regional cooperation framework would help to create a more effective implementation environment on the ground. During discussion of the principle of the obligation not to cause significant harm, participants noted that countries should have the right to use and access water resources while avoiding to cause harm to downstream countries. It is usually difficult to measure the level of the harm that has been inflicted, as from the perspective of downstream countries any reduction in the quantity or quality of water received would be perceived as significant harm. Therefore, more coordination is needed in order to measure and consequently mitigate the inflicted harm, for example by using such economic tools as financial compensation. Although the obligation not to cause significant harm is an important principle, it should be assessed through the rule of proportionality within the overall context of the need to cooperate. Although identifying the basis upon which water resources are allocated to the different riparian countries is very important, some countries choose to refer to sharing benefits in an effort to avoid the need to officially recognize water rights through binding legal cooperation agreements. It was also suggested that not all articles or rules of the 1997 United Nations Watercourses Convention need to be adopted within a regional cooperation framework, rather, the region, within the widely accepted general principles, could stress on elements and rules that adhere to the specificities of the region, which could be integrated into or would be compatible with local conditions, norms and values. The success achieved in the management of shared water resources within the SADC region were partly due to the lessons learned and experiences of other regions, notably the Danube basin in Europe. While the Arab region could in principle benefit from similar experiences of other regions, notably with regard to dealing with the issue of power imbalance within the region. This would require the intervention of credible and non-biased third parties.

26. Following the discussions, participants were divided again into two working groups. Participants in Working Group 2A discussed the issues of allocation rules of shared water resources and came up with the following recommendations:

(a) Equitable and reasonable utilization should be based on the factors that are mentioned in Article 6 of the 1997 United Nations Watercourses Convention, while noting the following:

- (i) Downstream perspective: The need to assess the state of the resources and characteristics of the system, taking into account that meeting social and economic needs should be primordial while also taking into account current use as well as potential utilization resulting from population growth and future needs;
- (ii) Additional factors to those mentioned in the article could include historical water use and an objective assessment of current and future social and economic water needs and their variations in the different riparian countries, taking into consideration the economic capacity of the different parties to alternative water sources. Nevertheless, such an assessment would probably lead to contentious discussions on the issue of needs versus rights.

(b) Identify and rank factors constituting significant harm. Some of the factors that could be used in the ranking process are historical data and information, inter-basin water transfers, water quality, the magnitude and level of harm, the impact of upstream projects, and the prior notification and acceptance of other riparian countries concerned;

(c) There is a need to set up a water use priority system with a focus on ensuring that basic human needs are met. Domestic use should be given priority over such other uses as agriculture and industry, but at

the same time, the direct contribution of water use in these productive sectors to the economy and its growth, namely the gross domestic product (GDP), should not be neglected.

27. In Working Group 2B, participants deliberated on the issue of regional cultural reflection on equitable and reasonable utilization of shared water resources and recommended the following:

(a) Two key obligations from the Sharia and customary law relevant to cooperation on the management of shared water resources were identified: (i) the “al hikmah dallat al mo’min”, an encouragement to learn from other cultures as part of the commandment to “seek wisdom”; and (ii) “collaborate” with those who “do good deeds”, both of which could contribute to fostering support for a regional water framework;

(b) The issue of public good versus private good was addressed, whereby, in the Sharia, private ownership of water and thus the ability to trade it is an acceptable notion provided that an effort, manual or financial, has been exerted to transport it from a communal resource, such as a shared water resources, as is the case with bottling water;

(c) There is a need for scientific research on how to benefit from traditional water management systems that emerged endemic to the region, which has a long experience responding to water scarcity challenge. Benefiting from those traditions and lessons provides value and balance with new economic-based approaches that are not as yet well adapted to regional circumstances;

(d) There is a need to go beyond data, and to move towards comprehensive data management, given the availability of advanced knowledge management systems and analytical tools. In other words, data management systems need to be designed in such a way so that the collected data to promote cooperation and information sharing in an apolitical environment.

C. SESSION 3: ENVIRONMENTAL SUSTAINABILITY

28. The legal provisions for incorporating environmental aspects into international water agreements were reviewed, including the major international and regional water conventions and protocols. It was noted that potential environmental impacts include issues of over-abstraction, water quality, flow regimes, reservoirs and issues of recharge and discharge. Most major legal instruments include sections on water pollution or environmental protection and the preservation of both surface and marine environments. Some instruments are more comprehensive than others to incorporate, for example, legal, institutional, economic and other measures to ensure a maintained good state of rivers and lakes in terms of water quantity and quality.

29. The second presentation reflected on environmental sustainability of shared water resources in the ESCWA region. Among the critical environmental aspects mentioned were the activities leading to the pollution of rivers and aquifers, namely intensive use of chemicals and other products; reduced flows due to the construction of dams, with its downstream environmental impacts; and the toxics and other chemicals that can reach rivers and aquifers as a consequence of war. A few case studies on initiatives of regional environmental protection were highlighted, including the Nile Transboundary Environmental Action Project, which supported land and forest conservation; the Nubian sandstone regional aquifer project, which includes the establishment of an information system and the conduct of an environment assessment; and the Nahr el-Kebir River Basin Project, which incorporates the establishment of water quality monitoring stations and the development of related institutional and human capacity.

30. In the discussions that followed, the work of ESCWA on the subject was recognized and participants highlighted the need for ESCWA to assist member countries in conducting joint monitoring programmes as they help to identify developing trends and result in better informed policymaking. To do so, there is a need for more data and information collection, particularly on water quality and environmental flow. The impact

of increased water demand at the expense of wetlands should be studied as they tend to constitute sensitive and vulnerable environments. To this end, the ESCWA region could learn from other regions, especially from the ECE region and from Africa, where much work has been done on the interconnection between water resources management and the environment.

31. There is a need to conduct appropriate analyses on economic benefits that could serve as a guide to better manage the environment. The concept of environmental improvement is still new to the region, and therefore appropriate environmental improvement regulations have to be put in place, especially to regulate degradation caused by human activities. In general, the environmental sector suffers from a lack of adequate financial resources and awareness of the impact of environmental degradation on socio-economic development. Whatever the probability of climate change, the associated risks for this region are high. ESCWA could take the lead in studying the environmental impacts of climate change in the region in collaboration with other partners, especially those who have already started working on the issue.

32. Appropriate maps of land use are needed to guide all efforts aimed at environmental protection. Environmental water needs should be met through negotiations between riparian countries. Some upstream countries withdraw water without consideration of its impact on downstream countries, or on the environment. As a result, the water quality in those downstream countries is deteriorating rapidly, thereby affecting the environment and the quality of life. The challenge is to implement joint projects aimed at the sustainable use of shared water resources.

D. SESSION 4: CONFLICT PREVENTION AND RESOLUTION

33. Generally, conflicts and mechanisms for their prevention and resolution are key part of international relations. Drivers of conflicts over shared water resources include water scarcity, pollution of and access to water, level of development, and climate change but also institutional capacity or the lack of it. Literature shows that cooperation is more frequent than conflicts as the majority of States tend to comply with most treaties. International legal instruments governing water and environmental issues serve as a platform for negotiations to settle conflicts, regulation of environmental issues, mechanisms of compensation for environmental damages and harmonization of national policies.

34. The role of third parties in the prevention and resolution of conflicts was presented and discussed. During negotiations, governments and leaders tend to develop fixed attitudes, and a third party is frequently invited to step in, especially in the case of major disagreements, or if there is a history of complicated relationships. Third parties can assist by fostering confidence-building through more transparency, monitoring, dissemination of data and information, and notification of planned measures. Dealing with shared water resources is mainly political in nature and, as such, there is a need to raise awareness at that level while at the same time recognizing that integrated water resource management is a complex socio-economic development issue.

35. A presentation reviewed the prospects and provisions of a regional legal cooperation framework in the ESCWA and the Arab region. Cooperation on shared water resources in the region is difficult as water issues are very complex. This is due to various factors, including the high pressure being exercised on them, limited supplies, low knowledge base of the properties (technical and otherwise) of basins and particularly of aquifers, and the uncertain impacts of climate change, to name a few. Achieving a satisfactory level of cooperation will require a strong political will which can be achieved through awareness-raising and trust building. The main obstacles include misunderstanding of intentions and mistrust, lack of appropriate data, institutional weaknesses, and limited understanding of the guiding principles included in international legal instruments. There is a need to initiate dialogue, build trust through the implementation of joint activities and capacity-building programmes, increase national commitment, improve knowledge management and establish appropriate institutional arrangements, namely river basin and aquifer commissions.

36. In the ensuing discussions, participants noted that legal instruments governing international water issues should contain a political process that is fair to all parties and dynamic enough to include changes gradually. It was understood that every country tends to act in its own strategic interest and, therefore, the adoption of a regional framework will largely depend on the willingness of the countries of the region to cooperate. A regional cooperation framework could help in reaching numerous operational treaties and agreements between riparian countries of the region. It was also noted that conflict prevention and resolution mechanisms will need to go beyond finding fault of one party or the other as that could only lead to the escalation of conflicts. It is worth noting, however, that, most of the time, conflict and cooperation occur in parallel.

37. In Working Group 4A, participants deliberated on the issue of conflict prevention and resolution and concluded the following:

(a) Countries should do their utmost to prevent contentious issues before they arise or escalate;

(b) The region could develop a comprehensive cooperation vision or mechanism related to the management of shared water resources, on the basis of available frameworks or elements thereof, to which regional or country specificities could be added. Such existing regional institutional arrangements as the AMWC could play a pivotal role in facilitating coordination and in bringing together all parties;

(c) The need exists to identify ways to collect reliable and unbiased data and other information so that any regional mechanism can be based on sound data and information. Sharing data could enhance cooperation, but appropriate consultations would have to precede this process;

(d) Conditions need to be identified to enhance cooperation and to facilitate a regional discourse. A number of bilateral agreements are in place in the region, but no multilateral or basin agreements, even though those could play a considerable role in conflict prevention.

38. Working Group 4B deliberated on the role of international, multilateral and regional institutions and concluded the following:

(a) It is recognized that the mandate of ESCWA allows it to assist member countries to develop water management objectives through a shared vision, framework agreements, and such subsidiary instruments as protocols, guidelines and regulations in order to improve the management of shared water resources;

(b) It is recognized that other regions have successfully developed general and specific multilateral visions and agreements. This experience has proven that, in order to succeed, the ESCWA and Arab region should secure the consensus needed to foster effective cooperation on the management of shared water resources;

(c) It is recognized that lessons learned from other regions are of relevance for the ESCWA and Arab region;

(d) It is strongly recommended that ESCWA commence a consultative process with the aim to develop a shared water management vision which should eventually lead to the establishment of regional, basin and bilateral legal agreements;

(e) Some experts argued that the rapidly increasing water scarcity requires ESCWA to develop, in parallel to the shared water vision, the basis for such binding regional water legal instrument as a protocol, treaty or convention.

E. SESSION 5: DEFINING THE WAY FORWARD

39. Participants agreed that a regional platform is required to bring all parties together and facilitate discussions and deliberations on cooperation modalities of shared water resources to be based on international customary laws and regional specificities while taking into consideration environmental sustainability. Such a process is most successful when covered by a regional political umbrella that helps overcome some of the underlying contentious issues that appear technical in nature, but are political in essence. A number of such factors as common cultural norms and values favour the move towards a regional legal platform which could greatly ease the whole process. Such platform for improving the management of shared water resources would be established on the same legal grounds as existing agreements at bilateral level, including those between Iraq and the Syrian Arab Republic, Lebanon and the Syrian Arab Republic, or Egypt and the Sudan. ESCWA could eventually prepare a protocol based on similar regional experiences, namely the SADC Protocol, which could be presented to the ESCWA Committee on Water Resources as a good practice for its review and potential adaptation to the regional context. If countries are insufficiently aware of the various conventions, awareness needs to be raised through various activities so that decisions can be taken in a well-informed manner. Other incentives to promote regional cooperation could include capacity-building, early warning systems, the conducting of a basin-wide assessment, and the setting up of systems to monitor groundwater and surface water. The need exists for an information system or database that could facilitate easy sharing of data and information. Efforts in this regards are being pursued by the Centre of Water Studies and Arab Water Security of the League of Arab States, in collaboration with international and regional organizations.

40. ESCWA could provide guidance to member countries on such specific issues as data collection and dissemination while working closely with other international, regional and national institutions, the private sector, community organizations and other stakeholders on related issues of interest. ESCWA could also assist in the design and implementation of bilateral pilot projects which, once proven successful, could be upscaled to cover the entire ESCWA and Arab region, promoting cooperation on the long run. Efforts would have to be exerted to make use of such existing regional institutions as the League of Arab States and others. Those regional institutions need to be strengthened through the necessary technical backstopping, among others.

41. The League of Arab States, through the AMWC, needs to be closely involved to provide the political cover in the decision to establish a legal regional cooperation framework on the management of shared water resources, which can be viewed as a sign of ownership of the process; various regional and international institutions can provide the necessary technical and legal expertise to achieve such a framework. In order to forward the agenda of integrated management of shared water resources, it is indispensable to raise awareness and educate politicians (vertical) while collaborating more closely with experts (horizontal). It is important to keep in mind that the management of water is a political process and as such technicians should play a supporting role to that of the more official political leading role. It was suggested to revisit and evaluate all regional agreements in order to assess their success. The outcome of such assessments would then be provided to all member countries as lessons to learn from. The issue of adequate knowledge management has been identified as a pivot element of cooperation on shared water resources.

III. ORGANIZATION OF WORK AND ATTENDANCE

A. ORGANIZATION OF WORK

42. The Expert Group Meeting on Applying IWRM Principles in Managing Shared Water Resources: Towards a Regional Vision was held from 1 to 3 December 2009 at the United Nations House in Beirut, Lebanon. The meeting was divided in four major sessions: (i) cooperation and participation; (ii) equitable, reasonable and sustainable utilization; (iii) environmental sustainability; and (iv) conflict prevention and resolution. In addition to a number of introductory key presentations to the theme of the session, each session, with the exception of Session 3, included two working group discussions which were moderated and

facilitated in parallel in order to enhance the level of participation of all experts. To facilitate discussions among experts on environmental sustainability and its connection to the management of shared water resources, ample time was allowed for plenary discussions following the introductory presentations.

B. OPENING

43. The meeting was opened by Mr. Ali Mohammed Subah, Vice-Chair of the ESCWA Committee on Water Resources, Mr. Andreas Renck, Project Coordinator of the ESCWA-BGR Project on behalf of BGR, and Ms. Anhar Hegazi, Director of the Sustainable Development and Productivity Division at ESCWA. The three speakers emphasized that countries of the Arab region are faced with serious challenges, among which is a water crisis being exasperated by climate change and other environmental crises. There is an urgent need for an integrated vision on how to develop the water resources in the region, a vision which would put a special emphasis on, among others, enhancing cooperation and collaboration, the exchange of expertise and knowledge and enabling appropriate databases. The water crisis of the region is compounded by the fact that most renewable water originates from outside its borders and promoting international and regional cooperation and collaboration and an opportunity to develop appropriate legal measures could lead to a more equitable allocation of water resources among the riparian countries. BGR and ESCWA both affirmed that they would continue to support member countries in this endeavour.

C. PARTICIPANTS

44. The meeting was attended by experts from twelve ESCWA member countries, namely Bahrain, Egypt, Iraq, Jordan, Lebanon, Oman, Palestine, Qatar, Saudi Arabia, the Sudan, Syrian Arab Republic and Yemen, experts from various institutions, namely the Arabian Gulf University, the Italian Cooperation for Development in Lebanon, the Centre for International Studies and Research in Paris, the American University of Beirut, the Government of Sweden, the Beirut Arab University, the International Hydrological Programme of the United Nations Educational, Scientific and Cultural Organization, the COMPASS Foundation and the German Technical Cooperation project on transboundary water management in the South African Development Community, the League of Arab States, the Arab Centre for the Studies of Arid Zones and Dry Lands, the Centre of Water Studies and Arab Water Security, the International Union for Conservation of Nature and Natural Resources - Regional Office for Western Asia, the Global Water Partnership, in addition to experts from the Federal Institute for Geosciences and Natural Resources (BGR) and ESCWA (the list of participants is included in the annex to this document).

IV. EVALUATION OF THE MEETING

45. An evaluation questionnaire was distributed to the participants in order to assess the relevance, effectiveness and impact of the meeting. The feedback received was positive with nearly all the respondents rating the quality, usefulness and organization of the meeting as good or excellent and stating that it had met their expectations. The majority of the participants found that the workshop met its objectives. Nearly all the participants found that their expertise was very well suited for the meeting as was the expertise of other participants. In addition, the participants found that the venue provided an excellent opportunity to establish contacts and exchange information with other experts from the region. Several respondents also indicated that they would like to see follow-up activities, namely the implementation of activities recommended throughout the meeting, formulation of the regional vision for adoption by the AMWC, and supporting negotiations and dispute settlement over shared water resources in the Arab region. Integration of lessons learned and case studies from other regions were also requested.

46. Some participants made recommendations to improve the upcoming meetings. Those include: (i) to discuss more detailed case studies in the working groups; and (ii) to share international and regional successful experiences in this field.

LIST OF PARTICIPANTS

A. ESCWA MEMBER COUNTRIES

Bahrain

Mr. Abdulla Ali Abdulla
Chief, Water Conservation Section
Electricity and Water Conservation Directorate
Authority of Electricity and Water
Manama
Tel.: +973 17 576485
Mobile: +973 36 052981
Fax: +973 17 576591
E-mail: abdulla.ali@mew.gov.bh,
moathal@batelco.com.bh

Mr. Shawqi Abdulrahman al Mannai
Acting Director
Agriculture Engineering and Water Resources
Directorate
Ministry of Municipalities Affairs and Agriculture
Manama
Tel.: +973 17 796797
Direct: +973 17 796796
Mobile: +973 39 456058
Fax: +973 17 690177
E-mail: mannai@agr.gov.bh

Iraq

Mr. Hassan Janabi
Ambassador
Permanent Representative of Iraq to the United
Nations Agencies
Rome, Italy
Tel.: +39 06 88920492
Mobile: +39 32 80523635
Fax: +39 06 64420252
E-mail: iraq.fao@gmail.com,
janabih@gmail.com

Ms. Shirouk Hamid Abayachi
General Coordinator of the Iraqi Initiative
for Water and Environment
Baghdad
Tel.: 964 7901 941290
E-mail: shabayachi@yahoo.com,
iraqiwatergroup@yahoo.com

Ms. Sarah Aman Sahib
Engineer
National Centre for Water Resources
Management
Ministry of Water Resources
Tel.: +964 14 422183
Mobile: +964 79 01567107
E-mail: sarah.am_sa@yahoo.com,
envsearch@yahoo.com

Jordan

Mr. Ali Mohammed Subah
Senior Hydrogeologist
Director
National Water Master Plan Directorate
Ministry of Water and Irrigation
Amman
Tel.: +962 6 5685257
Mobile: +962 77 7295902
Fax: +962 6 5685257
E-mail: ali_subah62@yahoo.com

Mr. Khair al-Hadidi
Director
Groundwater Basins Directorate
Water Authority of Jordan
Ministry of Water and Irrigation
Amman
Tel.: +962 6 5683100, ext. 360
Mobile: +962 77 7495600
Fax: +962 6 5679143
E-mail: khair_hadidi@mwi.gov.jo

Lebanon

Ms. Mona Fakhri
Director of Water
Ministry of Energy and Water
Tel.: +961 1 565013
Mobile: +961 3 763936
Fax: +961 1 565077
E-mail: monafakhri@hotmail.com

* Issued as submitted.

Lebanon (continued)

Mr. Bassam A. Jaber
Water Resources Expert
Ministry of Energy and Water/Project MOTGE
Beirut
Tel.: +961 1 565110
Mobile: +961 3 748744
Fax: +961 1 565666
E-mail: jaberba@yahoo.com

Ms. Zeina Wilson Majdalani
Office of the Prime Minister
Presidency of the Council of Ministers
Beirut
Tel.: +961 1 970756/58/60, ext. 224
Mobile: +961 3 245416
Fax: +961 1 982094
E-mail: zmajdalani@pcm.gov.lb

Oman

Mr. Sulaiman Said al Obaidani
Assistant Director General for Assessment
and Monitoring
Ministry of Regional Municipalities and
Water Resources
Muscat
Tel.: +968 24 698089/24 698334
Mobile: +968 99 333207/95 121248
Fax: +968 24 698623
E-mail: sulaiman-said@hotmail.com

Palestine

Mr. Omar Mustafa Awwad
Director General of Strategic Planning
Palestinian Water Authority
Ramallah
Tel.: +972 22 429022
Mobile: +972 59 9814088
Fax: +972 22 429341
E-mail: awwad.omar@gmail.com,
najomar@planet.edu

Qatar

Mr. Ali Saif Ali al-Malki
Director, Water Network Affairs
Qatar General Electricity and Water Corporation
(KAHRAMAA)
Doha
Tel.: +974 4845999/4494248
Mobile: +974 5509650
Fax: +974 4836850 /4327230
E-mail: aalmalki@km.com.qa,
aalmalki@kahramaa.com.qa

Saudi Arabia

Mr. Meteb Abdullah al Shammari
Senior Geologist
Water Resources Development Department
Ministry of Water and Electricity
Riyadh
Tel.: +966 (01) 2056666/2052829
Mobile: +966 (0) 505151969
Fax: +966 (01) 2052965
E-mail: met3eb1@hotmail.com,
maalshammari@mowe.gov.sa

The Sudan

Mr. Ahmad Mahmoud Abdalla
Director General, Planning Directorate
Ministry of Irrigation and Water Resources
Khartoum
Tel.: +249 18 3771951
Mobile: +249 91 2152564
Fax: +249 18 3771951
E-mail: abushemila@gmail.com

Syrian Arab Republic

Mr. Ammar Kondakji
Laboratory Director
Ministry of Irrigation
Damascus
Tel.: +963 31 2330405
Mobile: +963 932 008642
Fax: +963 31 2330403
E-mail: ammarkondakji@yahoo.com

Yemen

Mr. Abdulla Mohamed al-Thary
Deputy Chairman
National Water Resources Authority
Ministry of Water and Environment
Sana'a
Tel.: +967 12 54153
Mobile: +967 73 3818521
Fax: +9671 254274
E-mail: sys2000@y.net.ye,
althary@nwra-yemen.org,
Aalthary-nwra@y.net.ye

B. EXPERTS

Mr. Waleed Zubari
Vice-President, Academic Affairs
Professor of Water Resources
Arabian Gulf University
Manama, Bahrain
Tel.: +973 17 239600/880
Mobile: +973 39 433811
Fax: +973 17 239552/272555
E-mail: waleed@agu.edu.bh,
waleedkz@gmail.com

Ms. Sara Berlese
ICT Project Coordinator
Project on Water Management
Embassy of Italy - Cooperation Office
c/o Ministry of Water and Energy
Beirut, Lebanon
Tel.: +961 1 565086
Mobile: +961 71 473979
E-mail: sara.berlese@esteri.it

Ms. Marwa Daoudy
Visiting Professor
University of Geneva (MEC)
IORBA Programme
Geneva, Switzerland
Tel.: +41 320 0718
Mobile: +41 79 457 2054
Fax: +41 22 733 9673
E-mail: marwa.daoudy@graduateinstitute.ch

Mr. Nadim Farajalla
Associate Professor
Faculty of Agricultural and Food Sciences
American University of Beirut
Beirut, Lebanon
Tel.: +961 1 350000, ext. 4409
Mobile: +961 3 536006
Fax: +961 1 744460
E-mail: nf06@aub.edu.lb

Mr. Jon Martin Trondalen
Chairman
COMPASS Foundation
Geneva, Switzerland
Tel.: + 41 22 7040670
Mobile: + 41 79 4799846
Fax: + 41 227040671
E-mail: admin@compass-foundation.net

Mr. Anders Jägerskog
First Secretary
Senior Programme Manager, Water Resources
Regional Team for Economic and Environmental
Development (REED)
Embassy of Sweden
Nairobi, Kenya
Tel.: +254 20 4234 000/20
Mobile: +254 73 5615 080
Fax: +254 20 4452 008/09
E-mail: anders.jagerskog@foreign.ministry.se

Mr. Karim Makdisi
Assistant Professor of International Relations and
International Environmental Policy, Department
of Political Studies and Public Administration
Associate Director, Issam Fares Institute for
Public Policy and International Affairs
American University of Beirut
Beirut, Lebanon
Tel.: +961 1 350000, ext. 4343
Mobile: +961 3 910761
Fax: +961 1 744461
E-mail: km18@aub.edu.lb,
karim.makdisi@aub.edu.lb

Ms. Raya Marina Stephan
Consultant
International Hydrological Programme (IHP)
United Nations Educational, Scientific and
Cultural Organization (UNESCO)
Paris, France
Tel.: +33 14 5684115
Fax: +33 14 5685811
E-mail: r.stephan@unesco.org

Mr. Horst Michael Vogel
Programme Director
GTZ Transboundary Water Management
in SADC
Gaborone, Botswana
Tel.: +267 310 2501
Mobile: +267 721 20255
Fax: +267 310 2526
E-mail: horst.vogel@gtz.de

Mr. Jacques Mousalli
TL SWM-DM (Regional Programme)
P.O. Box 16
Broumana, Lebanon
Mobile: +961 3 370755
E-mail: Jacques.moussalli@mailhee.com

C. REGIONAL ORGANIZATIONS

Ms. Chahra Ksia
Chief
Center of Water Studies and Arab Water
Security
League of Arab States
Damascus, Syrian Arab Republic
Tel.: +963 11 3317874
Mobile: +963 94 4401022
Fax: +963 11 3335252
E-mail: cofws@yahoo.com

Mr. Abdullah Droubi
Head, Water Resources Department
Arab Centre for the Studies of Arid Zones and
Dry Lands (ACSAD)
League of Arab States
Damascus, Syrian Arab Republic
Tel.: +963 11 5746893/5743039/5743087
Mobile: +963 932 39 3339
Fax: +96311 5743063/5743039
E-mail: droubi@scs-net.org,
water_dep@acsad.org

Mr. Odeh al-Jayyousi
Regional Director
Regional Office for West Asia (ROWA)
International Union for Conservation of Nature
(IUCN)
Amman, Jordan
Tel.: +962 6 5546912/3/4
Mobile: +962 777 888355
Fax: +962 6 5546915
E-mail: odeh.al.jayyousi@iucn.org

Ms. Barbara Tomassini
Programme Officer
Global Water Partnership-Mediterranean/MED
EUWI secretariat
Beirut, Lebanon
Mobile: +961 70 612732
E-mail: barbara@gwpmmed.org

D. ORGANIZERS

Federal Institute for Geosciences and Natural Resources (BGR)

Ms. Franca Schwarz
Sub-Department Head
International Cooperation
Hannover, Germany
Tel.: +49 511 643 2325
Fax: +49 511 643 3689
E-mail: franca.schwarz@bgr.de

Mr. Andreas Renck
Project Coordinator
ESCWA-BGR Project
Beirut, Lebanon
Tel.: +961 1 978 557
Mobile: +961 70 117 916
Fax: +961 1 981 510
E-mail: andreas.renck@bgr.de

Mr. Youssef al Mooji
Senior Water Expert
ESCWA-BGR Project
Beirut, Lebanon
Tel.: +961 1 978 523
Fax: +961 1 981 510
E-mail: al-mooji@un.org

Ms. Vanessa Vaessen
International Cooperation - Policy Advice
Groundwater
Hannover, Germany
Tel.: +49 511 643 2380
Fax: +49 511 643 3661
E-mail: vanessa.vaessen@bgr.de

Ms. Eileen Maternowski
Young Professional
Beirut, Lebanon
Tel.: +961 1 978557
Mobile: +961 70 116124
Fax: +961 1 981510
E-mail: eileen.maternowski@googlemail.com

Ms. Reem Nizam
Meeting Assistant
Beirut, Lebanon
E-mail: reem.nizam@lau.edu.lb

Economic and Social Commission for
Western Asia (ESCWA)

Sustainable Development and Productivity
Division (SDPD)

United Nations House
Riad el-Solh Square
Beirut, Lebanon
Tel.: +961 1 980301
Fax: +961 1 981510

Ms. Anhar Hegazi
Director
Tel.: +961 1 978 501
E-mail: hegazi@un.org

Ms. Carol Chouchani Cherfane
Chief
Water Resources Section (WRS)
Tel.: +961 1 978 518
Mobile: +961 3 769 466
E-mail: chouchanicherfane@un.org

Ms. Roula Majdalani
Chief
Technical Cooperation Section (TCS)
Tel.: +961 1 978825
E-mail: majdalani@un.org

Mr. Mohamed I. al-Hamdi
First Economic Affairs Officer
Water Resources Section (WRS)
Tel.: +961 1 978 524
E-mail: al-hamdi@un.org

Mr. Ralf Klingbeil
Regional Advisor on Environment and Water
Tel.: +961 1 978 508
E-mail: klingbeil@un.org

Mr. George Nasr
First Economic Affairs Officer
Tel.: +961 1 978 506
E-mail: nasr1@un.org

Mr. Tarek Sadek
Economic Affairs Officer
Water Resources Section (WRS)
Tel.: +961 1 978 520
E-mail: sadekt@un.org

Mr. Fidele Byiringiro
Economic Affairs Officer
Water Resources Section (WRS)
Tel.: +961 1 978 519
E-mail: byiringiro@un.org

Ms. Julie Abouarab
Research Assistant
Water Resources Section (WRS)
Tel.: +961 1 978 561
E-mail: abouarab@un.org

Ms. Hanan Atallah
Research Assistant
Water Resources Section (WRS)
Tel.: +961 1 978 511
E-mail: atallahh@un.org

Mr. Adnan Kaddoura
Staff Assistant
Water Resources Section (WRS)
Tel.: +961 1 978 504
E-mail: kaddouraa@un.org

Ms. Suzanne Faddoul
Tel.: +961 1 978 516
E-mail: faddouls@un.org