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Committee on Water Resources
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**REVIEW OF ACTION TAKEN IN THE FIELD OF WATER RESOURCES SINCE
THE SIXTH SESSION OF THE COMMITTEE ON WATER RESOURCES****PROGRESS MADE IN THE IMPLEMENTATION OF ACTIVITIES RELATED TO
WATER RESOURCES WITHIN THE FRAMEWORK OF THE ESCWA
PROGRAMME OF WORK BETWEEN THE SIXTH AND SEVENTH
SESSIONS OF THE COMMITTEE ON WATER RESOURCES****Summary**

The overall orientation of the medium-term plan for 2002-2005, Programme 18 - Economic and Social Development in Western Asia is "to nurture comprehensive, integrated, equitable and sustainable economic and social development at both the national and regional levels".* The programme of work for the biennium 2006-2007 focuses on "promoting integrated programmes for sustainable development and economic and social cooperation in the Economic and Social Commission for Western Asia (ESCWA) region while maintaining strong economic relations among member countries and the rest of the world".**

In this context, the objective of subprogramme 1: Integrated policies for the management of regional resources for sustainable development for the biennium 2004-2005 was to have a positive impact on regional integration and cooperation among ESCWA member countries, based on a concrete approach to the integrated and sustainable management of water, energy and the production sectors. This can be carried out through four expected accomplishments, two of which are connected to activities which were implemented during the period October 2004 - December 2005: (a) enhancing the capacity of member countries to formulate integrated policies for the effective and sustainable management of water resources and energy; and (b) increasing the interest of member countries in regional cooperation for the management of shared surface and groundwater resources and energy grids.

* United Nations, Economic and Social Commission for Western Asia (ESCWA), Revised medium-term plan for the period 2002-2005, Programme 18: Economic and Social Development in Western Asia, 19 March 2002, (E/ESCWA/S-4/3), p. 3-5.

** Proposed programme budget for the biennium 2006-2007, part V: Regional cooperation for development, section 21, economic and social development in Western Asia (programme 18 of the biennial programme plan and priorities for the period 2006-2007) [A/60/6 (Sec. 21)/2 May 2005].

The objective of subprogramme 1 for the biennium 2006-2007 is to improve the sustainable management and use of natural resources in the ESCWA region, with particular emphasis on water, energy, environmental protection and the production sectors. This can be carried out through four expected accomplishments, two of which are connected to the field of water resources: (a) enhancing the capacity of member countries to formulate and adopt integrated and environmentally sound policies and measures and introduce mechanisms to improve the sustainable management of natural resources, with particular emphasis on the water, energy and production sectors; and (b) increasing the application of measures, and approaches for integrated water resources management in the region, for the prevention of water and environment-related disputes.

This document contains a review of the progress made in the implementation of activities in the field of water resources since the sixth session of the Committee on Water Resources, held in Beirut from 2 to 4 December 2004.

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I. ENHANCING THE CAPACITY OF MEMBER COUNTRIES TO FORMULATE INTEGRATED POLICIES FOR THE EFFECTIVE AND SUSTAINABLE MANAGEMENT OF WATER RESOURCES AND ENERGY

1. This accomplishment in the field of water resources requires raising the level of awareness and knowledge of all parties concerned with issues of water resources for sustainable development, including water resources management, changing unsustainable practices, preserving water resources for development, and determining policies and measures necessary for increasing the efficient use of water resources in various sectors. To this end, and to complete the activities implemented in 2004, the Economic and Social Commission for Western Asia (ESCWA) published in 2005 a number of technical documents and studies and organized specialized workshops. ESCWA also offered advisory services to member countries in this regard. These activities aim to provide those involved in the water resources sector with technical information on specific issues and to make recommendations on measures needed to formulate and implement integrated policies for the management of the water sector in order to achieve sustainable development in countries of the region. The following are the most prominent activities implemented by ESCWA in this context.

A. STUDY FOR THE EVALUATION OF INTEGRATED WATER RESOURCES MANAGEMENT (IWRM), SANITATION AND HUMAN SETTLEMENTS IN THE ARAB REGION (E/ESCWA/SDPD/2005/WP.2)

2. ESCWA played an important role in regional preparation for the twelfth and thirteenth sessions of the Commission on Sustainable Development (CSD-12 and CSD-13), which focused on the themes adopted for this cycle, namely, water, sanitation and human settlements. ESCWA participated in the CSD-13 policy session held from 11 to 22 April 2005, during which three reports were considered on appropriate policies and options for facing challenges in those three areas.

3. This study presents in its first part a complete review of the progress made in the implementation of the sustainable development commitments with particular emphasis on water issues, including the restrictions, opportunities and challenges faced by the region. The first part, entitled The integrated development and management of water resources in the Arab region, provides a brief overview of what has been accomplished in the Arab world with regards to the objectives of the Agenda 21 and the Johannesburg Plan of Implementation (JPOI) and the indicators of success for some of the important activities recently carried out by some Arab countries, in addition to the problems and challenges related to various activities in water resources development and management. This part also includes a summary of progress made in the preparation and development of national water plans, the efficient and fair allotment of water resources among various users, and the economic tools for the optimal allotment and use of limited water resources in agriculture. It also considers the establishment of an authority responsible for developing and implementing strategies and plans for the integrated management of river Nile basins from the source to the mouth of the river and shared aquifers capacity-building, awareness-raising and public participation programmes.

B. DETAILED STUDY ON THE DEVELOPMENT OF FRAMEWORKS FOR THE IMPLEMENTATION OF NATIONAL IWRM STRATEGIES IN ESCWA MEMBER COUNTRIES (E/ESCWA/SDPD/2005/10)

4. This study aims to review the progress made by ESCWA member countries in the development of national IWRM plans, investments programmes and implementation mechanisms. This study also aims to review the models for those strategies implemented at the national and local levels in accordance with the provisions of the JPOI ratified by participating countries at the Johannesburg Summit in 2002, including ESCWA member countries. The JPOI encourages the establishment and implementation of national IWRM strategies by the end of 2005 and the implementation of programmes to meet the Millennium Development Goals (MDGs) for sustainable development. This study was prepared upon the recommendations of the fifth session of the Committee on Water Resources held in October 2002.

5. This study concludes that all ESCWA member countries have either completed the preparation of their national IWRM strategies, or are in the process of doing so. All member countries have initiated a number of regulatory, institutional and legislative measures derived from those plans. Some member countries, however, have adopted those IWRM plans at the highest political level and have integrated them into their economic and social plans for sustainable development. The study recommends that particular attention be given to main themes, such as investments, implementation mechanisms and capacity-building programmes. All of those call for concerted efforts by stakeholders at all levels, including consumer groups, relevant ministries, water authorities, civil society institutions and donors, with a view to establishing the institutional and administrative frameworks for the sustainable implementation of IWRM.

C. ESCWA WATER DEVELOPMENT REPORT 1: VULNERABILITY OF THE REGION TO SOCIO-ECONOMIC DROUGHT

6. This report aims to assess the socio-economic effects of drought, formulate an integrated approach to deal with this phenomenon, determine its impact on water resources management and raise awareness on the importance to deal with and mitigate frequent drought. The report includes the case studies of Jordan, Saudi Arabia and Yemen, that suffer from the socio-economic effects of steady population growth and frequent drought. The harmful effects of drought in recent years on the ESCWA region highlighted the need for additional policies and measures to mitigate the socio-economic effects of this phenomenon, including the increase in poverty and unemployment rates, malnutrition and water pollution. Moreover, higher rates of migration from rural to urban areas in search of alternative livelihoods result in such negative effects on urban communities as the spread of informal housing and higher rates of crime and delinquency.

7. The report recommends that scientific studies related to drought include the examination of non-climatic factors which affect the vulnerability of a country to drought, as well as drought preparedness and mitigation strategies to reduce the socio-economic effects of this phenomenon on ESCWA member countries. In order to mitigate the negative effects of drought, institutional and technical capacity-building as well as drought preparedness and early-warning systems are of high importance.

D. BOOKLET ON COUNTRY AND REGIONAL PROFILES FOR SUSTAINABLE DEVELOPMENT INDICATORS SELECTED SECTORS IN THE ESCWA REGION (E/ESCWA/SDPD/2005/BOOKLET.2)

8. The Sustainable Development and Productivity Division (SDPD) published a number of booklets on sustainable development indicators for the ESCWA region as a whole and for each of the thirteen member countries in particular. These indicators deal with such selected sectors as energy, water, environment, agriculture, private sector and technology. This booklet presents profiles for sustainable development indicators in the water resources sector and includes indicators in charts and graphs for the years 2000 and 2003, or for other years, whenever available. Those profiles do not exclusively provide numbers, but rather highlight the priority issues and policies related to the aforementioned indicators in a country. The figures and indicators were drawn from official sources, including publications of statistical bureaus, relevant ministries and ESCWA, as well as the various databases of the United Nations and of other international and regional organizations.

E. ROLE OF RURAL WOMEN IN WATER RESOURCES MANAGEMENT, ENERGY RATIONALIZATION AND ENVIRONMENTAL PROTECTION IN THE ESCWA REGION

9. This study analyses and describes the status of rural women in general and their potential contribution to the management of natural resources for rural development in particular. This study assesses the challenges in strengthening the role of women in water and energy management and their involvement in the environmental concerns of rural communities, taking into consideration that women are the primary users of domestic water, energy supplies and sanitation services. The main recommendations of the study are:

(a) Taking into consideration the needs and role of rural women when determining policies for the management of natural resources, in particular water and energy, as well as relevant environmental programmes;

(b) Raising awareness of the importance of gender mainstreaming and the participation of both men and women in the management and rationalization of natural resources through training;

(c) Achieving universal education, awareness-raising and environmental guidance in pertinent fields, while working to overcome customs and traditions which prevent women from taking an active role in managing resources and preserving the environment;

(d) Promoting the role and participation of women in the management of natural resources supplies, in particular water and energy, by encouraging their representation in local authorities and rural women's organizations.

F. ANNUAL REVIEW OF THE ACTIVITIES OF SDPD

10. Towards the end of 2005, SDPD published the fourth issue of the Annual Review of its activities. This review highlights the main accomplishments of SDPD for the year 2005 in areas related to energy, environment, agriculture, private sector and technology and contains summaries of (a) selected technical papers; (b) main technical studies, reports and publications by SDPD; (c) outcome of intergovernmental and expert group meetings and workshops organized by SDPD; (d) technical cooperation activities carried out by SDPD; and (e) activities undertaken within the framework of regional and international cooperation in coordination with United Nations organizations and other international and regional organizations.

G. MEETINGS, SEMINARS AND WORKSHOPS

1. *Workshop on Training of Trainers on the Application of IWRM Guidelines in the Arab Region (Kuwait, 14-18 May 2005)*

11. ESCWA organized a workshop on the application of IWRM guidelines in cooperation with the Kuwait Institute for Scientific Research (KISR). The workshop aimed at building the capacities of water specialists and other relevant experts in the implementation of IWRM guidelines in the Arab region. It was sponsored by the Federal Institute for Geosciences and Natural Resources (BGR) in Germany, the United Nations Educational, Scientific and Cultural Organization (UNESCO), the International Network for Capacity Building for Integrated Water Resources Management (Cap-Net), the Global Water Partnership - Mediterranean (GWP-Med), the Centre for Environment and Development for the Arab Region and Europe (CEDARE), and the United Nations Development Programme (UNDP).

12. The workshop included presentations and practical demonstrations by ESCWA to train participants in applying IWRM guidelines. Participants provided case studies on the different dimensions of IWRM and proposed ways to tailor the training materials to the actual needs of national officials in order to provide them with various applicable training techniques to be used in specialized training workshops.

2. *Regional Preparatory Meeting of ESCWA Member Countries for the Fourth World Water Forum in Mexico (Beirut, 29 September 2005)*

13. Upon the recommendation made by the Committee on Water Resources at its sixth session, ESCWA organized a preparatory meeting for member countries participating in the Fourth World Water Forum in Mexico. This meeting aimed to coordinate the stances of the countries of the region and regional organizations and to develop a unified position on the status of water resources in the region. Participants discussed the regional paper prepared by ESCWA, which included: reviewing issues related to water scarcity in the ESCWA region, with an emphasis on the social, economic and environmental effects and dimensions; identifying and analysing the particular cultural, social and economic features of the region which could affect the efficiency of water management policies, in particular at the local level; evaluating the social,

economic and environmental effects of measures taken in the region to address water scarcity; reviewing successful experiences and identifying the obstacles and challenges facing the participation of stakeholders, non-governmental organizations (NGOs) and civil society organizations in water resources management at the local level; and identifying the needs of each subregion as well as the technical and financial support required from the international community.

14. ESCWA reviewed and amended this paper taking into consideration the views and comments of participants and representatives of member countries. The final draft was sent to the Arab Water Council in order to coordinate with other Arab countries the formulation of a unified Arab stance with regard to water issues in the Arab region.

3. Seminar on Water Governance: Role of Stakeholders (Beirut, 14-15 November 2005)

15. The seminar was held at ESCWA in Beirut and aimed to improve water governance and strengthen the role of stakeholders and civil society institutions in IWRM. It encouraged participating water experts and representatives from ESCWA member countries, civil society institutions and the private sector to present their particular experiences and applications of water governance. The seminar provided a platform for the improvement of water governance applications in the ESCWA region and for the strengthening of the role of stakeholders and civil society institutions in the development and implementation of water policies and in the analysis of discussions on the principles and applications of water governance within the context of IWRM at both the global and regional levels. It also highlighted the relationship between economic, political, social, environmental and health objectives and the role of women under the current regional management structure, as well as the existent legislation related to water resources. The seminar proposed a regional framework for articulating an operational strategy to improve water governance in the region.

H. FIELD PROJECTS IN THE AREA OF WATER RESOURCES

1. Assisting ESCWA member countries in the area of water resources

16. The German Government, through its Federal Ministry for Economic Cooperation and Development, has supported the efforts of ESCWA in the field of water resources. Through a joint project for technical cooperation, the German Government pledged to provide advisory services to ESCWA and member countries in the field of water resources. The project is being implemented in cooperation with BGR and the German Agency for Technical Cooperation (GTZ). The German contribution includes appointing two experts responsible for coordinating project activities with the ESCWA water management team, providing temporary experts from various fields and financing some of the activities carried out by the water management team. With this support, ESCWA has been able to implement important activities consistent with the MDGs in the following two fields:

(a) Capacity-building in IWRM;

(b) Developing policies and mechanisms necessary to provide and improve water supplies and sanitation services.

2. The Arab Integrated Water Resources Management Network (AWARENET)

17. AWARENET consists of a number of training and research institutes working to promote the principles of IWRM in the Arab region. Since its establishment in March 2002, a constitution for the network has been developed and membership has expanded to include 80 research and training institutes from 14 Arab countries. The objective of AWARENET is to create a regional forum for consultation and the exchange of water-related problems, find appropriate solutions through enhancing and disseminating knowledge on IWRM for sustainable development and promote regional cooperation among training and

research institutes which deal with IWRM issues in the ESCWA region and in all other Arab countries. AWARNET is an effective tool for the exchange of information, expertise and best practices related to the sustainable management of water among member countries.

(a) *Consultative meeting (Kuwait, 18 May 2005)*

18. An organizational meeting for AWARNET was convened at the Training of Trainers Workshop on the Application of IWRM Guidelines in the Arab Region. During the meeting, the progress made in implementing the activities of 2004 was presented and discussed. The meeting approved the proposed activities of AWARNET for 2005 and agreed on disseminating the work of members and financing their future activities.

(b) *Establishing national branches of AWARNET*

19. ESCWA organized a coordination meeting for AWARNET members in Lebanon on 15 April 2005. Participants reviewed the activities being carried out by AWARNET members and agreed to develop a plan of action for the establishment of a national branch of AWARNET in Lebanon.

I. ADVISORY SERVICES PROVIDED BY ESCWA TO MEMBER COUNTRIES IN 2005

20. ESCWA provided member countries upon their request with advisory services to support their development programmes. These services included national capacity-building in developing integrated policies for the sustainability of water resources. ESCWA's regional advisors made important recommendations on the subjects of their missions and submitted them to each member country as part of their mission reports.

Country and institution requesting advisory mission	Duration and objective of mission	Results/recommendations of the mission
Oman Ministry of National Economy	15 August - 30 September 2005 To prepare a field study on the falaj system in Oman to be presented as an IWRM model at the Fourth World Water Forum.	ESCWA prepared a study on the falaj system in Oman within the context of IWRM. The study included a presentation of the technical, social, cultural, economic and legal aspects of the falaj system in Oman. The objective of the study was to promote this unique set-up as an ideal IWRM model and to present it among the activities of the Fourth World Water Forum in Mexico in March 2006. This study highlighted the value of Arab cultural heritage in this field.
Kuwait Kuwait Institute for Scientific Research (KISR)	15-16 February 2005 To provide advice on modern technical methods for the artificial recharge of groundwater with a view to enhancing water security.	An expert from ESCWA's water management team participated in the discussion and provided input during a seminar held on this topic. ESCWA also provided technical information to raise awareness of modern technical methods. The seminar stressed the importance of protecting groundwater, and of strengthening cooperation and coordination among researchers and officials. It also called for organizing training workshops on the protection and rehabilitation of groundwater, and recommended that the artificial recharge of ground aquifers be applied on a wider scale, especially in the Gulf Cooperation Council (GCC) countries. The seminar recommended that an information network be established with a view to strengthening cooperation among those countries.

Country and institution requesting advisory mission	Duration and objective of mission	Results/recommendations of the mission
Yemen Ministry of Water and Environment	26-28 April 2005 To provide advice on water desalination methods and on renewable energy in Yemen.	An expert from ESCWA's water management team participated in the discussion and provided input during a workshop held on this subject. ESCWA also presented a working paper on water resources management in Yemen.

II. INCREASING THE INTEREST OF MEMBER COUNTRIES IN REGIONAL COOPERATION FOR THE MANAGEMENT OF SHARED SURFACE AND GROUNDWATER RESOURCES AND ENERGY NETWORKS

21. Cooperation and regional integration activities undertaken by ESCWA in 2005 included strengthening cooperation with Arab countries and specialized organizations through participation in the implementation of the activities and programmes of the Joint Committee on Environment and Development in the Arab Region (JCEDAR) and the Council of Arab Ministers in Charge of Environmental Affairs. ESCWA attaches particular importance to encouraging member countries to devote greater attention to regional cooperation in the field of the management of shared surface and groundwater resources.

A. REGIONAL COOPERATION BETWEEN COUNTRIES IN THE MANAGEMENT OF SHARED WATER RESOURCES: CASE STUDIES OF SOME COUNTRIES IN THE ESCWA REGION (E/ESCWA/SDPD/2005/15)

22. This study assesses the cooperation between ESCWA member countries concerned with the management of shared water resources and includes two case studies: the Al-Kabeer al-Janoubi River shared by Lebanon and the Syrian Arab Republic and the basalt aquifer shared by Jordan and the Syrian Arab Republic.

23. The study recommends the establishment of a joint steering committee for coordination, cooperation and exchange of information with regards to the Al-Kabeer al-Janoubi Agreement, the establishment of the mechanisms necessary to ensure the implementation of the clauses of the Agreement, technical capacity-building of the institutions responsible for the implementation of the projects related to the Agreement, and integration of the management of the Al-Kabeer al-Janoubi river basin into the policy plans of the two countries to maximize the efficient use of shared water resources in the region. The study also recommends that workshops and negotiation sessions be organized for the parties concerned in the two countries, as needed, to fulfill any clauses of the Agreement. With regards to the shared basalt groundwater aquifer, the study recommends the development of plans for the integrated management of shared groundwater and the establishment of a joint advisory steering committee for the coordination, follow-up and exchange of information on water among representatives of the relevant bodies and authorities in the two countries. To this end, each country should appoint a representative to this committee.

B. THE ENVIRONMENT IN THE TRANSBOUNDARY CONTEXT IN THE ESCWA REGION: SITUATION AND RECOMMENDATIONS (E/ESCWA/SDPD/2005/5)

24. This is the first study to identify the main transboundary environmental issues in the ESCWA region, review current management policies adopted by member countries and assess their effectiveness within the framework of current regional and international agreements. The study concludes with recommendations emphasizing the importance of formulating a regional strategic structure and establishing appropriate mechanisms for the implementation of this strategy. The importance of active cooperation and joint transboundary environmental management was also highlighted. The study stressed the need for ESCWA member countries to work towards concluding agreements for transboundary environmental management at the regional and international levels and to promote mutual understanding, cooperation and regional

integration amongst them. This can be accomplished through active transboundary environmental management and dispute settlement in order to achieve sustainable development for shared natural resources.

C. CAPACITY-BUILDING PROJECT FOR THE SUSTAINABLE UTILIZATION, MANAGEMENT
AND PROTECTION OF SHARED GROUNDWATER IN THE EURO-MEDITERRANEAN
PARTNERSHIP (MEDA) REGION

25. This project aims to strengthen the capacities of water management institutions in the Mediterranean region for the sustainable utilization of available resources through the management and protection of shared groundwater resources. This project contributes to securing the sustainable management of shared groundwater resources in order to supply water for drinking and food production. This project also supports MDGs dealing with improving the supply of safe drinking water and alleviating poverty. ESCWA is implementing this project in cooperation with the Economic Commission for Europe (ECE), the Economic Commission for Africa (ECA), UNESCO, the United Nations Department of Economic and Social Affairs (DESA) and other international and regional organizations. The project was initiated at the beginning of August 2004 and expected to be completed towards the end of 2007.

*Workshop on Instruments for Managing Shared Groundwater
Resources in the MEDA Region
(Beirut, 12-13 December 2004)*

26. The workshop aimed to identify technical, social, economic, legal, institutional and environmental measures for the development of management tools for both renewable and non-renewable shared ground aquifers under various conditions. During the workshop, the essential results of the analytical study of the tools utilized in groundwater management in the Mediterranean region were presented. Participants, regulatory bodies, international experts and advisors all tested the available tools for sustainable management. As a result of this meeting, countries of the MEDA region developed awareness of applicable international standards for the sustainable management of shared ground aquifers (including the technical, legal, institutional, social, economic and environmental dimensions). The meeting also promoted the exchange of knowledge on various topics related to the management of shared aquifers, and the establishment of a cooperation mechanism.

D. STUDY FOR THE EVALUATION OF THE ESTABLISHMENT OF A REGIONAL MECHANISM
FOR BUILDING CAPACITIES TO MANAGE SHARED WATER RESOURCES

27. Given the instability in the region, ESCWA plays a pivotal role in providing assistance and direction to member countries in the management of their scarce water resources. ESCWA is a reliable and neutral organization with long-term experience in the sound management of water resources and encourages cooperation in general and among countries with shared water resources in particular. In this context, ESCWA has recommended to strengthen cooperation between member countries in the field of shared water resources pursuant to resolutions 233(XXI) adopted in 2001 and 244(XXII) adopted in 2003. In resolution 255(XXIII) adopted in 2005, the ESCWA Secretariat was requested to prepare a feasibility study on the establishment of a regional mechanism for building member countries' capacities to manage shared water resources.

28. An international expert was entrusted with the preparation of an initial study on the feasibility of establishing such a regional mechanism. The ESCWA Secretariat reviewed the study and published it at www.escwa.org.lb to make it available for the representatives of member countries on the Committee on Water Resources. The Secretariat has also created an interactive internet forum for the exchange of comments and opinions. The initial study consists of four parts as follows:

- (a) Analysing the rationale of establishing a regional mechanism;
- (b) Considering the political dimensions and the national and regional benefits related to the establishment of the proposed mechanism in the ESCWA region;
- (c) Evaluating the needs and requirements for building the technical capacities of member countries;
- (d) Designing the institutional structure of the proposed regional mechanism.

**III. ENHANCING THE CAPACITY OF MEMBER COUNTRIES TO FORMULATE
AND ADOPT INTEGRATED ENVIRONMENTALLY SOUND POLICIES
AND MEASURES AND INTRODUCE MECHANISMS TO IMPROVE
THE SUSTAINABLE MANAGEMENT OF NATURAL RESOURCES,
WITH PARTICULAR EMPHASIS ON WATER, ENERGY
AND PRODUCTION SECTORS**

29. In 2006, ESCWA carried out activities aimed at enhancing the capacities of member countries in IWRM at the national, local and regional levels. Those activities targeted representatives from the public and private sectors and from civil society organizations. The objective of those activities was to support the efforts of member countries in either establishing and implementing necessary policies and measures or in developing and implementing IWRM systems.

**A. GUIDELINES RELATED TO INSTITUTIONAL AND LEGAL DEVELOPMENT
FOR THE IMPLEMENTATION OF IWRM AT THE NATIONAL LEVEL
IN THE ESCWA REGION**

30. This study aims to provide member countries with guidelines on how to develop, evaluate and activate the institutional and legal frameworks for the management of the water resources sector in order to implement the principles and objectives of IWRM. The study describes the current status of institutional and legal frameworks in IWRM plans and strategies in member countries with particular emphasis on lessons learned from countries which have achieved significant progress in this field. The study presents proposals for the institutional structure and the necessary legislative amendments, in addition to the steps necessary to activate and implement those proposals within an appropriate and realistic legal framework, in accordance with the needs and characteristics of each country in the region. The study focuses on identifying the problems and challenges facing institutions working in the water sector, and provides case studies from countries such as Egypt, Jordan and Yemen, which have made significant progress in the preparation of national IWRM plans. The study includes specific proposals for legal amendments, including amending the laws governing water utilization, to delineate the responsibilities, tasks and powers of the parties responsible for the implementation of national plans. Other proposals are related to the active role of financial institutions, banks, economic authorities and the private sector, the support of partnership programmes and investment plans and project financing. The legal amendments also include the review and evaluation of economic mechanisms and tools through the enforcement of laws imposing fines and taxes for the preservation of water quality.

B. STUDY FOR THE ASSESSMENT OF WATER QUALITY MANAGEMENT IN THE ESCWA REGION

31. This study aims to assess the current status of water quality management in the ESCWA region. It includes case studies through which the practices of water quality management in three countries (Egypt, Jordan and Yemen) have been presented and evaluated. The purpose of this study is to make specific recommendations to member countries on the management systems necessary to preserve water quality.

32. The study concludes that the overall water quality situation in the ESCWA region indicates that there is still much to be done to overcome the numerous challenges and problems which have, to a large degree,

contributed to water quality degradation. In order to improve water quality and protect limited water resources, the study recommends the urgent adoption of the necessary measures to determine the causes of water quality degradation, the sources of pollution, the standards for water quality, and the necessary procedures for monitoring, controlling, inspecting and observing water legislation. The study further recommends supporting the institutional structures concerned with water quality management, developing legislative systems, defining the roles of stakeholders, expanding the role of civil society organizations and the private sector and building systems of cooperation and coordination between the authorities and parties working in this field. The study highlighted the importance of the exchange of information among these authorities and parties and providing them with technical support.

C. MEETINGS AND WORKSHOPS

1. *Expert Group Meeting on Legal and Institutional Reforms for the Implementation of IWRM in the ESCWA Region (Muscat, 18-20 March 2007)*

33. ESCWA is currently organizing an expert group meeting in Oman from 18 to 21 March 2007 in cooperation with GTZ. The meeting will be attended by experts concerned with the legal and institutional aspects of water resources management. The primary objective of this meeting is to provide practical guidelines on the institutional arrangements and legislative reforms needed to implement IWRM in the ESCWA region taking into consideration the social, cultural, political and economic characteristics of the region.

2. *Consultative meeting for Arab members of parliament on the application of an IWRM approach*

34. ESCWA is currently organizing a consultative meeting for Arab members of parliament concerned with water resources management in cooperation with GTZ. A guidebook was prepared for this meeting on the expected role of Arab members of parliament in the ESCWA region. This guidebook was designed to provide members of parliament responsible for the enactment of legislation and laws needed for policy implementation, with adequate information on IWRM so that they may make use of it in undertaking their responsibilities. This workshop is set to be held in June 2007.

D. FIELD PROJECTS IN THE AREA OF WATER RESOURCES

1. *Assisting ESCWA member countries in the area of water resources*

35. The German Government supports the efforts of ESCWA in developing the policies and mechanisms necessary to provide and improve water and supplies and sanitation services (see area 16) through the joint technical cooperation project. This includes providing technical cooperation and advisory services to ESCWA and its member countries.

36. The Arab Water Utilities Network consists of a number of drinking water and sanitation facilities in Arab countries. This network is expected to act as an effective mechanism for consultation and exchange of expertise in a positive, interactive and constructive manner between its members and Governments, the private sector, financing institutions and international donor organizations so as to achieve benefits for all parties.

(a) *Consultative Meeting on the Proposal for the Formation of an Arab Water Utilities Network (Cairo, 4-6 September 2006)*

37. The objective of this meeting was to foster the exchange of views and opinions by the greatest number possible of officials in water and sanitation facilities in the ESCWA region on the need for the proposed

network, its opportunities for success and financing arrangements. The meeting was attended by delegations from ten ESCWA member countries in addition to representatives from the German Water Association and the European Water Association. The meeting concluded that there is an urgent need to establish the proposed network. It was recommended that participants expedite the necessary measures for the establishment of this network. A steering committee of 12 members was formed to follow-up on the establishment procedures.

(b) *Meeting of the constituent assembly (Bonn, 10-16 December 2006)*

38. The first meeting of the constituent assembly for the Arab Water Utilities Network was held in Bonn where the first draft of the constitution was discussed and adopted. The participants were briefed on the German experience in this field and conducted a visit to the German Water Association and the European Water Association.

(c) *Water Middle East Conference (Bahrain, 22-24 January 2007)*

39. A special session of the Arab Water Utilities Network was held at the conference and at the 4th International Exhibition and Conference for Water Technology which was hosted by Bahrain. It was agreed that the Arab Water Utilities Network will be officially launched on 23-24 April 2007 in Abu Dhabi, upon the invitation of the local Government of Abu Dhabi.

2. Arab Integrated Water Resources Management Network (AWARENET)

(a) *Consultative meeting to prepare a training of trainers workshop on gender mainstreaming in IWRM for the Arab region (Beirut, 4-6 July 2006)*

40. A consultative meeting was held in cooperation with the Gender and Water Alliance (GWA) to establish a plan for the preparation of a training of trainers guide on capacity-building for gender mainstreaming in IWRM in the Arab region. Case studies from the region were reviewed, and methods and techniques necessary to provide appropriate training materials were identified.

(b) *Expert Group Meeting on IWRM in the Arid Zones of the Middle East and North Africa (Amman, 11-14 December 2006)*

41. ESCWA participated in the expert group meeting organized by the United Nations University (UNU) to assist countries in the Middle East and North Africa in addressing the water crisis through improved leadership performance in water management. This meeting discussed the most important elements of leadership in IWRM by providing an overview of the IWRM tools for arid regions. The meeting also presented the most important challenges facing regional leadership in achieving good governance of water resources and reviewed the best practices in the region.

(c) *Establishment of national branches of AWARENET*

42. ESCWA organized a coordination meeting in Amman on 15 December 2006 with a view to establishing a national branch of AWARENET in Jordan. ESCWA is currently following up with interested members on how to institutionalize the establishment of such branches, including registering AWARENET and identifying a host institution.

IV. INCREASED APPLICATION OF MEASURES AND APPROACHES FOR IWRM AMONG MEMBER COUNTRIES FOR THE PREVENTION OF WATER AND ENVIRONMENT-RELATED DISPUTES

43. Some ESCWA member countries have shared water resources (rivers, ground aquifers and others) with other countries both inside and outside the region. ESCWA therefore attaches great importance to encouraging member countries to devote greater attention to regional cooperation in the management of

shared surface and groundwater resources. Sound IWRM planning has become necessary to preserve shared water resources. In many instances, however, it is difficult for riparian countries or countries which share rivers and ground aquifers to engage in a dialogue. Therefore, it is necessary to build the capacity of ESCWA countries in the area of technical negotiations and constructive dialogue for the integrated management of shared water resources.

A. GLOSSARY OF TERMS USED IN THE MANAGEMENT OF SHARED INTERNATIONAL WATERS (SURFACE AND GROUNDWATER)

44. A glossary of terms used in the management of shared water resources was prepared upon a request made by the Committee on Water Resources at its sixth session given the need for consensus on the international terminology of this field. The terminology related to shared international water resources (surface and groundwater) was included in the programme of work of the ESCWA water management team and in the activities of the joint German technical cooperation project through which extrabudgetary funds have been provided. In this context, two terminology bulletins were prepared: the first contains technical and social terminology and the second contains legal terminology. It is expected that experts from the ESCWA region, including decision makers and negotiators, will make use of the glossary. It standardizes the terminology and harmonizes prevailing concepts related to the technical, economic, social, environmental, institutional and legal aspects of the management of shared water resources. The glossary will enable water experts to agree on fair and balanced agreements and treaties on the distribution and management of water in the region.

B. MEETINGS AND WORKSHOPS

1. *Workshop on the Formulation of a Policy Framework to Support the Establishment of Mechanisms for Inter-State Cooperation on Shared Groundwater Aquifers in the Mediterranean Region (Beirut, 24-25 April 2006)*

45. The first draft of a study on the formulation of a policy framework for the establishment of mechanisms for cooperation in the management of shared groundwater was prepared and presented to the countries of the MEDA region during the workshop. Guidelines were formulated for the development of sound management tools for shared renewable and non-renewable water resources under various scenarios. Furthermore, all the technical, social, economic, legal, institutional and environmental tools formulated by the study were reviewed. The workshop recommended awareness-raising and the implementation of international standards in the sustainable management of shared groundwater resources. Additionally, the workshop recommended the exchange of expertise in various issues of common interest.

2. *First training seminar on "Groundwater modeling and data analysis" (Cairo, 2-7 December 2006)*

46. ESCWA organized this seminar in cooperation with the Research Institute for Groundwater in Cairo. Several international organizations participated in this seminar, including ECE, ECA, the International Hydrological Programme (UNESCO-IHP) and DESA. Twelve trainers from Arab countries also participated in this seminar. The seminar included training materials on modeling through the use of computers and the use of various developed techniques and systems in the management of groundwater. On the last day of the seminar, a fieldtrip was conducted to a land reclamation site on the Cairo-Alexandria desert road.

C. FIELD PROJECTS IN THE AREA OF WATER RESOURCES

Assisting ESCWA member countries in the area of water resources

47. The German Government supports the efforts of ESCWA in enhancing the negotiation skills of its member countries in the area of shared water resources through a joint technical cooperation project. A letter was addressed to the focal points of the Committee on Water Resources containing a questionnaire

on the training needs of member countries in this field. Responses to the questionnaire demonstrated the interest of most member countries in developing their negotiation capacities. In this context, an organizational meeting was held in Amman during December 2006 to prepare for a workshop to be held during April 2007, and to determine the scope of work needed, the results desired, and the criteria for selecting participants.

D. ADVISORY SERVICES OFFERED BY ESCWA TO MEMBER COUNTRIES IN 2006

48. In 2006, ESCWA received four requests for advisory missions in the field of water resources, as follows:

Country and institution requesting advisory mission	Duration and objective of mission	Results/recommendations of the mission
Oman Ministry of Regional Municipalities, Resources and Water Environment	To develop a plan of action to raise efficiency and promote the principles of IWRM.	ESCWA is currently preparing to send a work team to assist in the formulation of the general framework and terms of reference of a national plan for capacity-building in the field of the sustainable management of water resources.
Saudi Arabia Ministry of Economy and Planning	To provide technical assistance in the following fields: - Hydrogeology; - Hydrological networks; - Mathematical models; - Management of water demand.	ESCWA is currently preparing to send experts in those fields after receiving the terms of reference from Saudi Arabia.
Jordan Ministry of Water and Irrigation	To provide technical assistance in the following fields: - Capacity-building to determine and analyse expected environmental effects of proposed development projects; - Capacity-building of the ministry in the area of integrated policies for water resources.	ESCWA is currently preparing to send experts in both fields.
Bahrain Ministry of Works and Housing	To provide technical assistance to develop rules, terms and standard specifications related to law no. 33 issued in 2006 on sanitation and surface water drainage.	ESCWA is currently preparing to send two experts in this field. The first expert will help establish and develop standard specifications related to the aforementioned law. The second expert will assist in the formulation of executive regulations related to the same law.