

**ISTANBUL
INTERNATIONAL
WATER FORUM**

An Istanbul Perspective on REGIONAL WATER PROBLEMS and SEARCH for SOLUTIONS

*Outcomes of
the 2nd Istanbul International Water Forum*





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The foundations of the Istanbul International Water Forum were laid on the occasion of the 5th World Water Forum preparatory meeting held on 14-15 February 2009. The knowledge and experience we gained during the preparation process of the 5th World Water Forum and our desire to transfer this experience to future generations created the idea of making the Istanbul International Water Forum a traditional water event held every three years, one year prior to the next World Water Forum.

4650 water stakeholders from around the world gathered together in Istanbul on 3-5 May 2011 to attend the 2nd Istanbul International Water Forum with an aim to search for solutions to problems related to water, the most important item on the global agenda.

Besides the thematic sessions and regional focus meetings, ministers and senior officials from 39 countries around Turkey were invited to meet with representatives of international organizations during the Ministerial Meeting of the 2nd Istanbul International Water Forum. This high level assembly provided a platform for participants to exchange their views on regional water issues and highlighted the importance of regional cooperation. Additionally, 26 Thematic Sessions, 3 High Level Panels and 4 Regional Focus Meetings were held during the three-day event. Particular emphasis was placed on the participation of multiple authorities and concerned parties of various views and levels. This made it possible to prepare the outcomes in a wide context and address all the important water-related issues that are on the global agenda. The broad-based outcomes of the Forum will be of great importance to the Regional Process of the 6th World Water Forum that will be held in Marseille, France in March 2012.

Dear water friends,

Finally, I would like to thank everyone who contributed to the realization of the 2nd Istanbul International Water Forum. Believing that the energy and synergy we gained with this Forum will help us ameliorate our future activities, I hope to meet you all again in the next Istanbul International Water Forum in 2014.

Prof. Veysel EROĞLU

Minister of Forestry and Water Works of Turkey



Water is a “*sine qua non*” for the survival of life.

The Earth, created on a definite equilibrium, has been subject to major changes in the past centuries, most of which were caused by human beings living on it. These changes, in parallel to the global climate change that we face today, resulted in one of the major threats to affect the future decades. This threat is the depletion of water resources. Today, the search for the most efficient use of water resources is one of the foremost items on the global agenda.

In 2009, the 5th World Water Forum was organized in Istanbul, a capital of culture that hosted many civilizations throughout history and provided them with water as the main resource of life. This organization proved to be a very positive and rewarding step for Turkey, which reaffirmed its essential role in the management and safeguarding of global water resources. Thanks to the 1st Istanbul Water Forum we organized in February 2009 just before the 5th World Water Forum, we developed diverse approaches and perspectives to the issue based on local and regional dynamics.

The 2nd Istanbul International Water Forum held at the Golden Horn Congress Centre on 3-5 May 2011 was a constructive, solution-oriented activity aiming to improve regional cooperation for the future of water. Focusing on the water-related problems in the Middle East, Central Asia, Eastern Europe and Turkey, the 2nd Istanbul International Water Forum proved to be an essential step in enhancing the representation of regional water challenges and possible solutions in the forthcoming World Water Forum.

I hope that this book prepared as an outcome document of the 2nd Istanbul International Water Forum will serve to a world in which people do not suffer from any poverty of basic needs, especially “water”.

Respectfully,

Arch.Dr. Kadir TOPBAŞ

Mayor of Istanbul Metropolitan Municipality



Dear water friends,

Today, communities and countries are putting great efforts to overcome the difficulties and imbalances in water, food and energy supply. At this point, water itself can be seen as an element of solution. Indeed, this aspect of water was discussed in detail during the 5th World Water Forum in 2009. This year, inspired by the unifying power of water, the 2nd Istanbul International Water Forum gave us the opportunity to discuss this matter with a wide participation under the main theme *“An Istanbul Perspective on Regional Water Problems and Search for Solutions”*.

At the crossroads of two continents, a total number of 4650 participants from all over the world met at the Golden Horn Congress Centre. The Forum covered 6 themes, 26 thematic sessions, 3 high level panels, 4 regional focus meetings, 16 side events including a DSI special session, concerts, exhibitions and a Water Expo. Additionally, a Ministerial Meeting was held on the first day of the Forum with the participation of ministers from Turkey and surrounding countries, headed by Prof. Veysel EROĞLU, Minister of Forestry and Water Works of Turkey.

Instead of a narrow framework, the Forum adopted an extensive content, which was partly shaped with the stakeholder recommendations collected in advance of the Forum. Throughout the Forum, government authorities, academics, representatives of private sector and the civil society addressed water and water-related problems in an effective and comprehensive manner and tried to produce sustainable solutions in an open and transparent atmosphere. The outcomes of the Forum are expected to constitute important inputs to the 6th World Water Forum, which is to be held in Marseille in 2012.

Finally, we believe that water is the source of life and it is our common duty to protect and carry it forward to the future generations. Therefore, it is our common desire to realize the actions committed during the Forum as immediate as possible. I would like to express my thanks to everyone who participated and contributed to the realization of the 2nd Istanbul International Water Forum and hope to meet you all again at the next Forum.

Akif ÖZKALDI

Director General
General Directorate of State Hydraulic Works (DSI)
Forum Steering Committee Co-Chair



The humanity today is seeking answers on how to achieve sustainable economic development while protecting the water resources and environment.

Local and regional representatives, scientists and politicians from all corners of the world are coming together on a more frequent basis in order to evaluate the global changes on water, the most basic necessity. In this framework, we came together with participants from various countries at the 2nd Istanbul International Water Forum, where the main theme was defined as *“An Istanbul Perspective on Regional Water Problems and Search for Solutions”*. As people from different countries, we were united under the topic of water to learn, discuss, and above all, share our experiences.

Besides being a global city, Istanbul deserves to host water events being an ancient water civilization not only with the solutions it developed against water shortages, but also with its geography shaped by water. While adding up to our water memory, these meetings also take Istanbul to the front stage as an important actor in water management and the “Istanbul Perspective” provides clues for new cooperation and permanent solution opportunities to global water issues.

With this respect, I would like to thank once again to all contributors of the 2nd Istanbul International Water Forum, which united those dealing with water, the source of life. I hope that this book will provide new outlooks on water culture and use, as well as new perspectives on intellectual values of water issues.

Prof. Ahmet DEMİR

Director General
Istanbul Water and Sewerage Administration (ISKI)



The 2nd Istanbul International Water Forum served as an important platform for trust building among regional water stakeholders and explored areas of cooperation, which we regard as the key to achieve and maintain regional water security.

The 5th World Water Forum held in Istanbul in 2009 reaffirmed Turkey's pivotal role for the development of water management in the region. In the light of the experience and knowledge we gained during the 5th World Water Forum, we decided to take the initiative to fulfil the need for a comprehensive and open platform focusing exclusively on the water-related problems of the Forum's focal region, including the Middle East, Central Asia, Eastern Europe and Turkey. A series of preliminary small-scale meetings were held prior to the Forum for each region to collect the stakeholder priorities to be delivered to the Forum discussions. Aiming to contribute to the establishment of regional solidarity on water, the 2nd Istanbul International Water Forum provided a stage to enhance the interaction and develop confidence among regional stakeholders.

Sustainable economic and social development relies on water, food and energy security, which can only be maintained with efficient water management strategies that require basic technologies and infrastructure. Fortunately, basic water and wastewater treatment technologies are inexpensive and simple. To this end, Turkey aims to establish a global water fund to provide financial support for water supply projects in impoverished regions. As Minister Prof. Veysel EROĞLU underscored at the Ministerial Meeting, with this funding project, Turkey aspires to play an active role in overcoming the regional water-related challenges and invites other countries to contribute to this commitment.

This book provides an overview of all meetings and activities of the Forum, including the outcomes of the Ministerial Meeting and Regional Focus Meetings. A complementary publication is being prepared by the Forum Secretariat, synthesizing the link among water-food-energy that came forward as the most prominent subjects addressed during the Forum.

We believe that cooperation and trust is crucial for attaining water security in the region. The succeeding organization of the Forum secretariat, the Turkish Water Institute, will aim to improve the communication and collaboration in the region through organizing periodic regional meetings and the Forum itself every three years.

Finally, I would like to thank the young and devoted staff of the Forum Secretariat, who worked vigorously for the success of the Forum. Last but not least, we would like to announce that the regional water challenges and the possible solutions that were brought forward during the 2nd Istanbul International Water Forum will be conveyed to the 6th World Water Forum in Marseille in 2012.

Prof. Ahmet Mete SAATÇI

Vice Secretary General of the 5th World Water Forum Secretariat
Forum Steering Committee Co-Chair

OVERVIEW of the FORUM

The 2nd Istanbul International Water Forum brought together over 4,500 participants from 100 countries around the world

The 2nd Istanbul International Water Forum brought together over 4,500 participants from 100 countries around the world and particularly from the Middle East, Central Asia, Eastern Europe and Turkey. The Forum served as a platform for the key international and local water stakeholders *In and Around Turkey* to widen the debate and foster greater coordination among water professionals, policy makers, non-governmental institutions, as well as individuals in the region.

Hosted and organized by the General Directorate of State Hydraulic Works (DSI), with the support of the Ministry of Environment and Forestry, Istanbul

Metropolitan Municipality (IMM) and Istanbul Water and Sewerage Administration (ISKI), the Forum was held at the Golden Horn Congress Centre located on the side of the Golden Horn. The 5th World Water Forum Secretariat served as the Secretariat of the Forum. The Turkish International Cooperation and Development Agency (TIKA) also contributed to the Forum by sponsoring many panellists in thematic and regional meetings.

This year, differently from its first gathering in February 2009, the Istanbul Water Forum gained an international dimension, broadening its area of study and range of subjects, focusing on the water-related problems of the Middle East, Central Asia, Eastern Europe and Turkey. The Forum's preparation process involved receiving the regional water experts' and stakeholders' consultations on regional water issues and collecting their recommendations through a series of Regional Focus Meetings held for each of the above mentioned focal regions. The regional water challenges and suggested solutions that came up at these meetings were then conveyed to the Forum to be further evaluated in the political discussions and regional focus meetings. The thematic sessions of the Forum were separately



Oktay TABASARAN, Secretary General of the 5th World Water Forum, speaking at the Opening Ceremony

developed around six key underlying water themes that were identified jointly with the General Directorate of State Hydraulic Works (DSI).

The Opening Ceremony of the Forum included the speeches of Prof. Veysel EROĞLU, Minister of Forestry and Water Works of Turkey, Prof. Oktay TABASARAN, Secretary General of the 5th World Water Forum, Loic FAUCHON, President of the World Water Council (WWC), Prof. Ekmeleddin İHSANOĞLU, Secretary General of the Organization of the Islamic Conference (OIC), Dr. Habib N. EL HABR, United Nations Environment Programme Head of Regional Office for West Asia (UNEP-ROWA), İsmail UĞUR, Former Director General of the General Directorate of State Hydraulic Works (DSI), and Ahmet SELAMET, First Deputy Mayor of Istanbul Metropolitan Municipality (IMM).

The Forum's main theme ***"An Istanbul Perspective on Regional Water Problems and Search for Solutions"*** was addressed through 26 **Thematic Sessions** organized under six sub-themes, namely: Regional Technical Cooperation on Water; Water for Energy; Agricultural Water Management; Global Climate Change and Water; Urban Water Management; and Water Resources Management and Water Culture.

In the light of the outcomes of the first series of **Regional Focus Meetings** held prior to the Forum, a group of prominent international and regional water professionals and civil society representatives gathered around the table to discuss regional water challenges and possible solutions under the main themes: "Water and Food Security and Regional Technical Cooperation on Water" for the Middle East, "Agricultural Challenges Focusing on Food Security - Regional and National Perspectives" for Central Asia, "Integrated Water Resources Management" for Eastern Europe, and "Agricultural Water Management and Food Security" for Turkey. The outcomes of these meetings will provide valuable technical and intellectual input to the 6th World Water Forum 2012.

Three **High Level Panels** were organized under the titles of "Integrated Water Resources Management



Dr. Habib N. EL HABR, United Nations Environment Programme Head of Regional Office for West Asia (UNEP-ROWA), at the Opening Ceremony

(IWRM)", "Water-Food-Energy Nexus" and "Urban Water Services", with an aim to synthesize the Forum's regional and thematic viewpoints on related subjects.

The 17 **Side Events/Special Events** that were organized by a diversity of interests and organizations, including NGOs, government agencies, UN institutions, private entrepreneurs, consultants and others, broadened the range of topics that were covered in the Forum with lively and fruitful discussions. Side Events covered a range of subjects from technical and social aspects of water management to gender issues, from impacts of climate change to economic growth. A Special Event organized by DSI presented case studies from Turkey on water solutions. Another Special Event convened by ISKI was on "Istanbul Water Consensus and Water Applications".

The **Water Expo** provided a platform for water companies and governmental institutions to present their activities and solutions related to water.

Concerts, stage performances and exhibitions held throughout the Forum venue complemented the Forum discussions and debates, demonstrating the importance of water in our lives.

We hereby would like to thank all participants for their valuable contribution and participation to the Forum, which helped to make the 2nd Istanbul International Water Forum a success and we wish to continue this cooperation in the years to come.

Block		MAIN BLOCK	THEMATIC BLOCK I			THEMATIC BLOCK II	
Room Name		HALIC	KAGITHANE	EYUP	AYVANSARAY	AYNALIKAVAK I	AYNALIKAVAK II
Room No.			1	2	3	4	5
Day 1 - Tuesday May 3, 2011	08:30-09:30	REGISTRATION					
	09:30-10:00	INSTRUMENTAL TURKISH CLASSICAL MUSIC					
	10:00-13:15	OPENING CEREMONY					
	LUNCH 13:15-14:00						
	14:00-15:45		REGIONAL TECHNICAL COOPERATION ON WATER I	GLOBAL CLIMATE CHANGE & WATER "Hydrometeorological Disasters"	WATER RESOURCES MANAGEMENT "IWRM - Surface Water Resources"	WATER RESOURCES MANAGEMENT "Water & Culture I"	WATER RESOURCES MANAGEMENT "Water & Culture I"
	16:15-18:00		REGIONAL TECHNICAL COOPERATION ON WATER II	GLOBAL CLIMATE CHANGE & WATER "Water Resources & Climate Change"	WATER RESOURCES MANAGEMENT "IWRM - Groundwater Resources"	WATER RESOURCES MANAGEMENT "Water & Culture II"	WATER RESOURCES MANAGEMENT "Water & Culture II"
	18:15-18:45		THEME 1 WRAP-UP	THEME 4 WRAP-UP	THEME 6 WRAP-UP		
	19:00-20:00	ISTANBUL LIVE PRODUCTION MUSICAL PERFORMANCE					
Day 2 - Wednesday May 4, 2011	09:00-10:45	HIGH LEVEL PANEL "Integrated Water Resources Management"	WATER FOR ENERGY I "Development of Water Energy Potential: Legislation & Policies"	AGRICULTURAL WATER MANAGEMENT I "Irrigation Management Practices"	WATER RESOURCES MANAGEMENT "Geothermal Energy & Water Culture I"	SIDE EVENT: "Role of Biotic Regulation of Continental Water Stock" (Ecological Movement "BIOM")	WATER RESOURCES MANAGEMENT "Geothermal Energy & Water Culture I"
	11:15-12:30		WATER FOR ENERGY II "Interactions between Water, Energy and Environment"	AGRICULTURAL WATER MANAGEMENT II "Irrigation Structures: Challenges & Solutions"	WATER RESOURCES MANAGEMENT "Geothermal Energy & Water Culture II"	SIDE EVENT: "Innovation & New Technologies" (Private entrepreneurs)	WATER RESOURCES MANAGEMENT "Geothermal Energy & Water Culture II"
	12:45-13:15						
	LUNCH 13:15-14:00						
	14:00-15:45		WATER FOR ENERGY III "Challenges & Solutions on the Development of Water Energy"	AGRICULTURAL WATER MANAGEMENT III "Much, Less or Virtual Water?"	URBAN WATER MANAGEMENT III "Urban Wastewater Management I"	GLOBAL CLIMATE CHANGE & WATER "Urban Adaptation to Climate Change and Water Resources"	GLOBAL CLIMATE CHANGE & WATER "Urban Adaptation to Climate Change and Water Resources"
	16:15-18:00			AGRICULTURAL WATER MANAGEMENT IV "Is Participatory Irrigation Management (PIM) a Dream?"	URBAN WATER MANAGEMENT IV "Urban Wastewater Management II"	GLOBAL CLIMATE CHANGE & WATER "Water & Tourism"	GLOBAL CLIMATE CHANGE & WATER "Water & Tourism"
	18:15-18:45		THEME 2 WRAP-UP	THEME 3 WRAP-UP	THEME 5 WRAP-UP	THEME 4 WRAP-UP	THEME 4 WRAP-UP
	19:00-20:00	DOSTANE					
Day 3 - Thursday May 5, 2011	09:00-10:45	HIGH LEVEL PANEL "Water-Food-Energy Nexus"	SIDE EVENT: "Operation and Maintenance Practices in Agricultural Water Management" (DSI)	SPECIAL EVENT: "Istanbul Water Consensus and Water Applications" (ISKI)	HIGH LEVEL PANEL "Urban Water Services"		
	11:15-12:30					SIDE EVENT: "Creating a New Habitat for the Bats of İnboğazi Cave" (DSI)	
	12:45-13:15						
	13:15-14:00	CLOSING					
	14:00-18:00						
THEMES		Theme 1. Regional Technical Cooperation on Water Theme 2. Water for Energy Theme 3. Agricultural Water Management Theme 4. Global Climate Change and Water Theme 5. Urban Water Management Theme 6. Water Resources Management and Water Culture					

Forum Programme

MINISTERIAL MEETING

The Ministerial Meeting aimed at stimulating the political will toward taking action regarding regional water challenges

On the first day of the Forum, ministers and high-level decision makers from countries of the Forum's focal regions met at the Conrad Istanbul Hotel to share their visions on common water challenges and explore areas of cooperation at the Ministerial Meeting organized by the Foreign Relations and EU Department of the Ministry of Environment and Forestry. During the meeting, ministers, representatives of international institutions and top-level water executives discussed the topics essential in overcoming global, regional and local water challenges.



Participants of the Ministerial Meeting at Conrad Istanbul Hotel

Decision makers have the primary responsibility for the management and development of water resources. They are also the main agencies with the capacity to carry the ideas and plans into actions. The primary objective of the Ministerial Meeting was to stimulate political will toward taking action regarding regional water challenges. The meeting also aimed at convening top water executives to discuss opportunities for regional cooperation and identify concrete actions.

Topics discussed during the Ministerial Meeting included those derived from the regional focus meetings held in the preparation process of the 2nd Istanbul International Water Forum. High-level decision makers participating in the meeting pointed out the difficulties they experience in achieving and sustaining water security at national level. They also accounted for their legislative activities, institutional reforms, projects undertaken and strategies adopted to achieve efficient and effective water management. Representatives underlined the need to enhance communication among national governments, relevant state institutions, international organizations and stakeholders. Furthermore, they expressed their readiness and willingness to lay the foundations of a longstanding cooperation based on good intentions.

Participants:	<p>Aoun Diab ABDULLAH, Director General of the National Center for Water Resources, Republic of Iraq</p> <p>Saad ABU HAMMOUR, Secretary General of Jordan Valley Authority, Hashemite Kingdom of Jordan</p> <p>Ali Çetin AMCAOĞLU, Minister of Agriculture and Natural Resources, Turkish Republic of Northern Cyprus (TRNC)</p> <p>Javad AMIN-MANSOUR, Head of the Department for Trade Negotiations and Energy at Ministry of Foreign Affairs, Islamic Republic of Iran</p> <p>Shaddad ATTILI, Head of Palestinian Water Authority, Palestinian National Authority</p> <p>Danica BACANOVIC, Assistant Minister of Environment, Republic of Serbia</p> <p>Rashid Ahmed BIN FAHAD, Minister of Environment and Water, United Arab Emirates</p> <p>Arben DEMETI, Deputy Minister of Environment, Forests and Water Administration, Republic of Albania</p> <p>Veysel EROĞLU, Minister of Forestry and Water Works, Republic of Turkey</p> <p>Loic FAUCHON, President, World Water Council (WWC)</p> <p>Issoufou ISSAKA, Minister of Hydraulic and Environment, Republic of Niger</p> <p>Ziyadin JAMALDINOV, Chief of State Committee for Water Management and Land Improvement, Republic of Kyrgyzstan</p> <p>Vladimir NIKANOROV, Deputy Head of Federal Water Resources Agency, Russian Federation</p> <p>Razley Mohd NORDIN, Director General of Science and Technology Committee, Organization of the Islamic Conference (OIC)</p> <p>Sultan RAHIMOV, First Deputy Minister of Land Reclamation and Water Resources, Republic of Tajikistan</p> <p>Walid SHILTAGH, Head of the Department for Neighbouring Countries at Ministry of Foreign Affairs, Republic of Iraq</p> <p>Mustapha SINACEUR, Sub-regional Coordinator for Central Asia, Food and Agriculture Organization of the United Nations (FAO)</p> <p>Ivelina VASILEVA, Deputy Minister of Environment and Water, Republic of Bulgaria</p> <p>Mukhtar ZHAKENOV, Head of the Department for Regulation of Use and Protection of Water Resources at Ministry of Agriculture, Republic of Kazakhstan</p> <p>Merah ZIDANE, Secretary General of Algerian Water Resources Ministry, People's Democratic Republic of Algeria</p>



2nd Istanbul International Water Forum Ministerial Meeting

3 May 2011

Conrad Istanbul Hotel

Chair's Summary

Ministers and high level decision makers gathered at the Ministerial Meeting to share their visions on common water challenges. During this meeting, Ministers, representatives of international institutions and top level water executives discussed the topics essential in overcoming global, regional and local water challenges. This chair's summary aims to give a compilation of shared ideas, regional concerns and suggested solutions in this Ministerial Meeting at the 2nd Istanbul International Water Forum.

Prof. Veysel EROĞLU, Minister of Environment and Forestry, opened the meeting by welcoming Ministers and high level representatives from 15 countries, Food and Agriculture Organization (FAO), Organization of the Islamic Conference (OIC) and the World Water Council (WWC). Indicating that the Ministerial Meeting was dedicated to enhance regional cooperation, he stated that the outcomes of the 2nd Istanbul International Forum will be carried to the 6th World Water Forum in Marsailles, France on 12-17 March 2012.

Minister EROĞLU referred to water as an indispensable natural resource and a precondition of human life. Drawing upon the water target in the Environmental Sustainability chapter of the Millennium Development Goals, he indicated that sustainable development, achieving water security and food security require good water management which can only be achieved through equitable sharing of water among different sectors. He indicated that integrated water management and basin wide planning that are so crucial to good water management cannot be applied on a global scale due to lack of basic technology and infrastructure.

Minister EROĞLU identified the 5th World Water Forum as a good example of regional cooperation, indicating that the Istanbul Water Consensus has been signed by 900 mayors from 52 countries. He underlined the significance of cooperative regional projects for disaster management and mitigation due to climate change. Counting wastewater treatment technologies, drinking water, irrigation technologies, early flood warning systems, capacity building, technology transfer and exchange of experience among neighbors as means of cooperation, he

gave examples from the region. Turkey has been cooperating with Syria, Georgia, Russia, Greece and Israel on forest fires, dust storms and wind erosion. The foundation of the Dostluk Dam on Asi (Orontes) River has been recently laid with Syria and a joint dam project is in the works on the Tunca River with Bulgaria. Early flood warning systems have been developed on Meriç (Maritza), Asi (Orontes) and Çoruh Rivers.

Minister EROĞLU concluded his opening speech by stating his expectation to learn from each other through this Ministerial Meeting by enabling exchange of opinions and thus increasing regional cooperation.

The Head of the Palestinian Water Authority, Dr. Shaddad ATTILI, described the water problems of the West Bank and Gaza. He said that because of climate change, Palestinian Authority faces water security and food security problems that culminate in migration. He stated their inability to exploit water resources in the region effectively due to political problems, declaring that they had already called for help in the 5th World Water Forum to no avail. Saying that God created water for people and for nature, he affirmed their commitment to cooperation on water projects like the Red Sea – Dead Sea Conveyance. Dr. ATTILI further described their current situation by explaining that the Palestinian Water Authority is unable to provide continuous safe drinking water and that the sanitation system is non-existing. He called for assistance in dealing with this water crisis, inquiring after past projects for transferring water to the region like the Peace Water Project. He also indicated that 60% of the water comes from outside the Arab region but that although not an Arab country, they do not perceive Turkey as a threat for Euphrates and Tigris. Dr. ATTILI ended his words by emphasizing the importance of cooperation and lack thereof even in the Mediterranean Region.

Mr. Sultan RAHIMOV, First Deputy Minister for Soil Improvement Affairs and Water Resources of Tajikistan, said that there are more than 270 transboundary water resources; however, not every country receives an equitable share from these natural resources. He pointed out that water resources of the region are under stress from climate change and urged for regional cooperation. He identified bilateral agreements and/or cooperation among neighboring countries as inadequate for instituting efficient water management. Mr. RAHIMOV urged for cooperation and concerted action with the participation of all the countries in the region and declared Tajikistan's readiness

for it. He continued his speech by underlining that water security and energy security should be taken into account together. Mr. RAHIMOV argued that the existing water potential can cover the needs of Central Asia and a lack of cooperation and concerted action in Central Asia constitutes the main cause of inefficient water management. Moreover, he added that Tajikistan alone has a hydropower potential three times higher than the total requirement of Central Asia and that Tajikistan can supply irrigation water for 4 million hectares of land. He finished his speech by indicating that Tajikistan has the potential but without cooperation including national policies, water challenges in Central Asia cannot be overcome.

In his speech Mr. Ziyadin JAMALDINOV, Chief of State Committee for Water Management and Land Improvement of Kyrgyzstan, asserted that efficient water use is an important issue for Kyrgyzstan, an agricultural country and referred to the problems regarding decision making and implementation in water management. He underlined the need for a holistic approach in basin management and stated that parties should abide by rules and regulations codified in regional and international agreements. He proceeded by referring to the agreement signed between Kyrgyzstan, Uzbekistan and Kazakhstan in 1998 for cooperation on Syr Darya Basin which serves as an example for regional cooperation and advocated that other countries should also cooperate like Kyrgyzstan. Mr. JAMALDINOV stressed that water also is an important source of energy generation and energy security is a priority issue for Bishkek in order to meet the rising demand. He complained that Central Asian countries are acting on an individual basis for their own benefit and warned for more severe problems in the future due to population increase. Mr. JAMALDINOV ended his remarks by emphasizing that regional solidarity in water management with new policies and good intentions should replace individual actions of countries in the region.

Mr. Javad AMIN-MANSOUR, Head of the Department for Trade Negotiations and Energy at the Ministry of Foreign Affairs of Iran, explained that Iran, which has 80% of its population concentrated in arid and semi-arid areas, faces a number of water challenges. These problems include worsening environmental conditions such as dust storms, climate change, global warming, population growth and decreases in precipitation. Mr. AMIN-MANSOUR indicated that the volume of Lake Urmia has decreased significantly in last ten years due to climate change

and the lake is expected to dry out in the near future. Subsequently, Mr. AMIN-MANSOUR described Iran's plans for overcoming the twin water challenges of growing demand and diminishing supplies: public awareness campaigns to encourage lesser water use, implementation of modern irrigation systems, new production technologies for water use in industry and the prevention of pollution of surface waters through wastewater management. Mr. AMIN-MANSOUR also noted that Iran is taking regional actions to promote better water management. Iran has already established two regional water management centers in collaboration with 18 states and 8 international and scientific organizations, including the Regional Center on Urban Water Management (RCUWM) and the International Hydrological Water Management Center. To date, RCUWM has organized 24 workshops and 4 international conferences, and continues to train people every day in efficient water management. Mr. AMIN-MANSOUR stated that Iran invites Asian, African and Middle Eastern countries to the next meeting of RCUWM, in Kabul this September, to further improve cooperation in the region. Mr. AMIN-MANSOUR concluded his remarks by mentioning that Iran will be actively participating in the next World Water Forum.

Director General of the National Center for Water Resources of Iraq, Mr. Aoun Diab ABDULLAH, praised Turkey's strong political, historical, religious and economic ties with Iraq and expressed Iraq's gratitude to Turkey for its support in political and technical issues. He recalled the Istanbul Meetings¹ held in 2009 by Turkey, Syria and Iraq, where challenges in water security, disaster mitigation and desertification were discussed. He remembered it as having been a productive meeting in defining basic principles for regional cooperation regarding the use of the Euphrates and Tigris rivers, reclamation of river beds, preventing erosion and encouraging afforestation. Moreover, he emphasized that cooperation should be based both on the quantity and the quality of water and drew attention to the need for constructing dams, reclaiming river beds and preventing floods. Mr. ABDULLAH also declared Iraq's support for the principle of optimum, equitable, reasonable use of transboundary waters benefitting all the people in the region. He continued by explaining that Iraq suffers from an inadequate water supply, and that Iraq's resources are inefficiently exploited. Therefore, Iraq desires a compromise on the optimal use of trans-boundary waters under the conditions stated above. Additionally, Mr. ABDULLAH emphasized the need to further promote the 1997

¹These meetings are the Joint Technical Committee meetings between Turkey, Syria and Iraq. They were re-initiated by Turkey in 2007 and are being held regularly.



UN Convention on International Watercourses. He concluded his speech by noting that Iraq utilizes international firms in order to do strategic research on water and agriculture.

Mr. Vladimir NIKANOROV, Deputy Head of the Federal Water Resources Agency of Russia, stated in his speech that although Russia has a successful water management system place, the country is facing hardships from significant decreases in precipitation and a mismatch between the distribution of water resources and the country's population. He also noted that Russia is a party to more than 30 regional agreements in addition to numerous bilateral agreements with its neighbors, including agreements with China, Azerbaijan, Ukraine and Finland. Mr. NIKANOROV completed his speech by stressing the importance of pre-emptive cooperation in the fields of disaster mitigation and management, so that countries are better able to work together when disaster strikes.

Ms. Ivelina VASILEVA, Deputy Minister for the Environment and Water of Bulgaria, indicated that Bulgaria's national legislation has been harmonized with the EU Acquis, and that Bulgaria's river basin management plans are prepared in compliance with the EU Water Framework Directive. She expressed Bulgaria's appreciation for Turkey's efforts for accession to European Union and the need for the development of new cooperation mechanisms. Ms. VASILEVA underlined common action and mutual assistance for good neighboring relations. She suggested that Bulgaria and Turkey cooperate on eco-tourism and share environmental impact assessments and the prevention of pollution in the Black Sea. Ms. VASILEVA explained that an exchange of practices in integrated water management and their adaptation to the regional context are crucial. She mentioned that the operational programme for Black Sea is being prepared and proposed to share best practices and know-how with Turkey. She also expressed that Bulgaria is in favor of taking practical steps for specific projects within river basin management plans. She concluded her speech by adding that challenges in water management arise from a lack of financial resources in the region and asserted that joint actions can address these challenges.

Dr. Razley Mohd NORDIN, Director General of the Science and Technology Committee of Organization of Islamic Conference (OIC), pointed out that Turkey is the first member country of OIC which organized a World Water Forum. He stated that the idea of the water vision described in the 5th World Water Forum

in Istanbul should be taken more seriously and ambitiously. He continued his remarks by noting the construction of a joint dam by Turkey and Syria on Asi (Orontes) River is a good example of cooperation. Dr. NORDIN finalized his speech by presenting ten main areas for cooperation: irrigation, water treatment, alternative water resources and reclamation, climate change, wastewater management, data management in hydro-meteorology, institutional reforms for water resources management, establishment of water management centers like those in Iran, incorporation of common problems into national and international agendas, finance, and technology.

The sub-regional Coordinator for Central Asia in the Food and Agriculture Organization (FAO), Mr. Mustapha SINACEUR, recalled that the 5th World Water Forum was magnificent organization. He underscored the lack of cooperation in Central Asia as the essential difficulty in overcoming water related challenges. However, he did note that the Joint Committee on River Management between Kyrgyzstan and Kazakhstan is a promising exception to the status quo. He also mentioned that the main focus of the 2010 United Nations Regional Consultative Committee meeting in Ashkabad was enhancing dialogue in Central Asia. He concluded his speech by expressing his support for development of cooperation in Aral Sea and Nile River Basin. He stated that FAO established successful funding mechanisms to assist the agricultural sector and already granted around 10 million USD in Central Asia. He furthermore underlined the necessity to continue negotiations and to take initiative for regional cooperation and coordination.

The Albanian Deputy Minister for the Environment, Forests and Water Administration, Mr. Arben DEMETI, stated that despite Albania's rich water resources, the country is facing challenges in treating water. He also added that pressure on water resources is increasing due to population growth and intensive development in agriculture, tourism and industry. In order to address these challenges, Albania has established a Directorate General for Water to manage all water issues. Mr. DEMETI asserted that Albania already has a regulatory legal framework to improve the sustainable use of water resources and that it is preparing a draft law on international water management in accordance with the EU Water Framework Directive. Furthermore he expressed Albania's willingness for regional cooperation and noted his country's collaboration on cross border issues with Macedonia, Kosovo and Greece, and the upcoming cooperation agreement to be signed

between Turkey and Albania.

Professor EROĞLU, Turkish Minister for the Environment and Forestry, took the floor and started his concluding remarks firstly by responding to statements made by the Head of the Palestinian Water Authority. He explained that Turkey is aware of the problems in the West Bank and Gaza. Minister EROĞLU reminded that the Peace Pipeline Project which was developed during the term of Former President of Turkey, Turgut ÖZAL, to transfer freshwater to Middle East from Ceyhan and Seyhan Rivers. The project is currently suspended; however, Minister EROĞLU noted that Turkey has invested nearly 150 million USD into the Manavgat Water Supply Project, which has a capacity to supply 250.000m³ raw water and 250.000m³ treated water per day. Due to transportation costs via tankers, there was no demand from the neighboring countries, but Minister EROĞLU proposed that Turkey can still supply water from that plant to the Palestine Authority if Turkey receives a request.

Minister EROĞLU emphasized that water is a basic human need. In this context the Turkish International Cooperation and Development Agency (TIKA) and Directorate General for State Hydraulic Works (DSI) have drilled 108 drinking water wells in Niger and Turkey has undertaken projects to supply water for 150.000 people in developing world worth 1,5 billion USD. For example, in Burkino Faso, Turkey has drilled 14 wells and 16 more are to be drilled soon. Minister EROĞLU clearly stated that if there is a request for assistance, Turkey will always try to help. He added that helping is a duty of humanity recalling that Turkey was the first country assisting Israel during a forest fire last year. He further explained that Turkey is providing assistance also to Russia, Georgia and Syria in case of forest fires. Minister EROĞLU declared political disputes and lack of communication as central obstacles to overcoming water challenges in Central Asia. He gave Uzbekistan's contradictions on the construction of Rogun Dam in Tajikistan as an example. He also stated that Tajikistan is rich in water resources. Minister EROĞLU drew attention to the importance of cooperation within the basin boundaries and integrated river basin management and he congratulated Kyrgyzstan and Kazakhstan for the initiative of cooperation.

Minister EROĞLU also showed how that Turkey is a devoted defender of regional cooperation and gave examples of cooperation of Turkey with her neighbors. For instance, Turkey and Iran have held several productive meetings on undertaking common action against dust storms. He also mentioned

the Memorandum of Understanding signed with Bulgaria and cooperation on preventing pollution in the Black Sea.

Minister EROĞLU continued his remarks by mentioning the trilateral mechanism between Turkey, Syria and Iraq on the Euphrates and Tigris Rivers. He emphasized that Turkey believes in the equitable use of waters and pointed out that Turkey supplied its neighbors with 550-600 m³/sec of water at Turkey's expense during the drought in 2008-2009. Minister EROĞLU also added that up to 65-70% of water in Iraq is wasted due to inefficient systems in need of rehabilitation.

Minister EROĞLU also emphasized the need for cooperation among members of the Organization of the Islamic Conference regarding water issues. He also underscored the need for efficient water management and food production programs and offered to establish a water fund for financing projects to help supply water in impoverished regions.

Before concluding, Minister EROĞLU described the current situation in water management in Turkey. He stated that hydropower potential of Turkey is being developed through build-operate-transfer (BOT) projects in collaboration with the private sector. He explained that water management plans for all urban settlements until 2050 have been devised and that Turkey has established a fund of USD 5 billion to supply water to villages. Minister EROĞLU mentioned Turkey's agreements on environmental, water supply, dams and forestry issues with many countries, including Greece, Bulgaria, Iraq and Syria, and Turkey's offers to share its experience on dams, irrigation techniques and wastewater management. He encouraged countries that are interested in developing their hydropower potential to contact the Turkish General Directorate of State Hydraulic Works (DSI) for assistance. Minister EROĞLU also noted that Turkey proposed forest conservation efforts to combat climate change at the UN climate change summits in Cancun and Copenhagen. He also offered Turkey's financial and technical support to establish a fund for afforestation.

Minister EROĞLU concluded his remarks by proposing to establish a global water supply fund to provide finance from high and middle income countries to water supply projects in poor countries, and urged participants to discuss this issue in detail at the 6th World Water Forum.



HIGH LEVEL PANELS

High Level Panels gave the common message that an all-encompassing cooperation in technical, economical and political terms is the key to overcome the challenge of water security

The 2nd Istanbul International Water Forum included three High Level Panels (HLPs) namely, “Integrated Water Resources Management (IWRM)”, “Water-Food-Energy Nexus” and “Urban Water Services”. The High Level Panels gave the common message that an all-encompassing cooperation in technical, economical and political terms is the key to overcome the challenge of water security.

The first HLP was convened on the second day of the Forum and evolved around IWRM. The panel consisted of two sessions: “IWRM Implementation within the Context of Regional Cooperation” and “IWRM in the Face of Climate Change”. The panellists included Academic Thematic Coordinators of themes mainly covered on the first day, namely “Regional Technical Cooperation on Water”, “Global Climate Change and Water” and “Water Resources Management and Water Culture”.

The second HLP held on the last day of the Forum was on the relationship between water, food and energy and also consisted of two sessions. The first session on Food Security was the direct result of the preliminary work done for the Regional Focus Meetings. In the second session, we took one step further and discussed the connection between Water, Food and Energy. The Academic Coordinators of the themes “Water for Energy” and “Agricultural Water Management” participated in the panel.

Finally, as an overarching subject of the Forum, a separate HLP on “Urban Water Services” was held to complement our deliberations on IWRM and water-food-energy nexus.

We have taken a different approach in the organization of the High Level Panels. Besides the Academic Thematic Coordinators, the panellists included participants of Regional Focus Meetings, keynote speakers from Thematic Sessions, as well as conveners of Side Events. The HLP team met with the moderators and rapporteurs of the Thematic Sessions and Regional Focus Meetings in the evenings of the Forum days in order to prepare the agendas for the panels. The panellists were not asked to prepare a speech or a presentation, but to respond to the issues brought to the table by the moderator. Through the support of our moderators and panellists, we were able to reach our goal of synthesizing the Forum outcomes during the Forum.

High Level Panel I – Integrated Water Resources Management (IWRM)

Session 1. IWRM Implementation within the Context of Regional Cooperation

The High Level Panel on “IWRM Implementation within the Context of Regional Cooperation” took place on the second day of the Forum with the intention of identifying the problems and cooperation possibilities on water-related issues *In and Around Turkey*. The ways to realize actual cooperation at regional level were covered by referring to previous projects that were considered successful, as well as on-going ones from the Black Sea, Danube River, Northern Kabul and Central Asia.

Moderator:	Ayşegül TANIK , Istanbul Technical University (ITU), Turkey
Rapporteur:	Aslıhan KERÇ , Marmara University, Turkey
Panellists:	Imane ABDEL AL , World Water Council (WWC); The Association of the Friends of Ibrahim Abd El Al (AFIAL), Lebanon Mehmet KARPUZCU , Gazikent University, Turkey Ahmet KIDEYŞ , Commission on the Protection of the Black Sea Against Pollution Mykola MELENEVSKY , International Commission for the Protection of the Danube River Vadim SOKOLOV , Global Water Partnership for Central Asia and Caucasus

The aim of this High Level Panel was to detect the available cooperation options required for handling the water-related problems of the Forum's focal regions. In order to meet the quantitative and qualitative standards of water, there is a need for implementing a well-functioning IWRM with the participation of multiple stakeholders. This session emphasized the need for mutual awareness among downstream and upstream riparians, information and technology sharing, and cooperation among state, private sector and the academia at micro level as tools for mitigating the complexities of politics and maintenance of peace. In other words, maintaining stable political conditions and improving technical cooperation were covered as mutually dependent variables. Besides implementation of an integrated water management plan, an inclusive system of good governance that can coordinate the roles of legislative, financial and political authorities was offered as a preferred choice.



High Level Panel on IWRM Implementation within the Context of Regional Cooperation

Session 2. IWRM in the Face of Climate Change

Moderator:	Ayşegül TANIK , Istanbul Technical University (ITU), Turkey
Rapporteur:	Aslıhan KERÇ , Marmara University, Turkey
Panellists:	Ziad Hamzah ABU GHARARAH , The Regional Organization for the Conservation of the Environment of the Red Sea and Gulf of Aden (PERSGA) İbrahim GÜRER , Gazi University, Turkey Il Pyo HONG , Korea Water Forum (KWF) Mikdat KADIOĞLU , Istanbul Technical University (ITU), Turkey Karin KRCHNAK , The Nature Conservancy (TNC) Hasan Z. SARIKAYA , Istanbul International Water Forum Maciej ZALEWSKI , European Regional Centre of Ecohydrology u/a UNESCO

The second session of High Level Panel I on “IWRM in the Face of Climate Change” took place on the second day of the Forum, immediately after the first session. The panel was projected to response to two correlated questions: “what are the major impacts of climate change regarding IWRM that may lead to regional cooperation?” and “how regional cooperation may be realized with mutual benefits?”. In response to these questions, the panellists highlighted subjects such as economic and social impacts of climate change; connection between population growth, climate change and migration trends; need for capacity building and technology transfer to reach solid regional conditions; and importance of raising public awareness.

The panel provided the ground for discussing the interconnectedness of global climate change and varying regional impacts such as precipitation trends, flow regimes and seasonal floods. The panellists concurred with the proposition that in order to mitigate the impacts of climate change, capacity and confidence building practices should be enhanced constantly. Data collection, sharing and analysis should also be practiced through the presence of multiple stakeholders with the intention of determining and mitigating the underlying risk factors. The panel revealed the fact that against the uneven impacts of climate change that are experienced heavily, adaptation of necessary strategies requires intense cooperation between policy makers and scientists along with well-functioning funding mechanisms.

High Level Panel II – Water-Food-Energy Nexus

Session 1. Food Security

The High Level Panel on “Food Security” was structured to think about the fundamentals of food security and its link with water security. The panellists discussed various options to achieve food security, such as more efficient use of water in agriculture and redirecting it to other sectors, considering virtual water concept as a stimulator of regional interdependence and trade, and materializing IWRM that enables trade-offs between diverse uses of water.

The explicit common view of the panel was that the current amount of agricultural production would be enough to feed everyone globally, if the distribution was done fairly. Although well-operating IWRM practices and advancement in irrigation systems are necessary for assuring food security, global market trends and pricing policies should also be considered at equal weight. Panellists concurred with the idea that countries should engage in food trade according to their needs when it is feasible to do so and stated that self-sufficiency in food production at all-expense is not an indicator of food security. Panellists asserted that agriculture represents only one aspect of food security and that other aspects such as the environment, energy and urban water demand should all be taken into consideration to obtain a holistic view.



Ari MICHELSEN, Murad BINO and Jerome DELLI-PRISCOLI at the HLP on Food Security

Moderator:	Jerome DELLI-PRISCOLI , U.S. Army Corps Of Engineers (USACE); World Water Council (WWC)
Rapporteur:	Ipek ERZI , The Scientific and Technological Research Council of Turkey (TUBITAK) Marmara Research Centre (MRC) Environment Institute
Panellists:	Murad BINO , Inter-Islamic Network on Water Resources Development and Management (INWRDAM) Hayri COŞKUN , Abant İzzet Baysal University, Turkey Oleg GUCHGELDIEV , Environmental and Community Development Consultant Ari MICHELSEN , Texas AgriLife Research Centre, USA Giovanni MUNOZ , Food and Agriculture Organization of the United Nations (FAO) Sub-regional Office for Central Asia İzzet ÖZTÜRK , Istanbul Technical University (ITU), Turkey Ali Ünal ŞORMAN , Middle East Technical University (METU), Turkey



High Level Panel on Water-Food-Energy Nexus

Session 2. Water-Food-Energy Nexus

Moderator:	Doğan ALTINBİLEK , World Water Council (WWC); President, Turkish Hydropower Association (TURSEB)
Rapporteur:	Ipek ERZI , The Scientific and Technological Research Council of Turkey (TUBITAK) Marmara Research Centre (MRC) Environment Institute
Panellists:	Luis BERGA , International Commission on Large Dams (ICOLD) Mokhtar BZIOUI , World Water Council (WWC) Cüneyt GEREK , General Directorate of State Hydraulic Works (DSI) Jian-hua MENG , World Wildlife Fund (WWF) Dams Initiative Yarash PULATOV , Tajik Scientific Research Institute of Hydraulic Engineering and Land Reclamation, Tajikistan Bart SCHULTZ , UNESCO-IHE Institute for Water Education Richard TAYLOR , International Hydropower Association (IHA)

The main intention of the panel was to discuss how to optimize water use for food and energy. Provided that sustainability is taken into consideration, storing water via dams was recognized as the best option for ensuring water-food-energy security in times of scarcity. Although it may be possible to create master plans for water optimization, external factors such as seasonal droughts and floods resulting from climate change should also be taken into account. It was emphasized that population growth is going hand in hand with urbanization especially in developing countries and that life standards and food habits are evolving into a more consumerist way. In this respect, enhancing the productivity capacity of existing cultivated

lands was considered as a more feasible way than agricultural area expansion in meeting the increasing food demand. The panellists mostly asserted that allocating greater amount of water for energy production is not favourable when there are more severe needs to be met, such as sanitation and food production. Additionally, correlation between virtual water and political decision-making, positive and adverse effect of biofuels in terms of food crisis and deforestation, construction of dams in a transboundary context and upstream-downstream interactions were other issues that were comprehensively discussed in the panel.

High Level Panel III – Urban Water Services

Moderator:	Ahmet SAMSUNLU , Istanbul Technical University (ITU), Turkey
Rapporteur:	Kozet YAPSAKLI , Marmara University, Turkey
Panellists:	Pierre LACONTE , Foundation for the Urban Environment (FFUE) Marta MORETTI , International Centre of Cities on Water Karl Heinz ROSENWINKEL , Leibniz Universitat Hannover, Germany Waleed Ahmad SUKKAR , Ministry of Water and Irrigation, Jordan Yordan UZUNOV , UN Secretary General's Advisory Board on Water and Sanitation (UNSGAB)

The High Level Panel on “Urban Water Services” was composed of two parts. The first part of the panel was designated to receive the panellists’ perceptions about the contemporary water use and management under the pressures of population growth, climate change and urban migration. In this respect, supply-demand management appeared as an imperative task in order to assure that right water is used for the right purpose with lesser unnecessary expenditure and consumption. When identifying the quality standards of water, panellists concurred with the idea that quality standards of drinking water and water for irrigation should not be treated with the same parameters. Metering of water, proper pricing, employing modern technologies to track water and raising public awareness about excessive consumption of water were proposed as suggested solutions to balance supply and demand. Interestingly, the panellists revealed the need for a new approach when thinking about water that favours considering water issues alone with its intrinsic value, not under the umbrella of other fields such as industry and agriculture.

In the latter part of the panel, the issue of urban water services was discussed with reference to the connection between investment and management in the water sector. How to bring water to urban areas? What are the best ways to distribute and control it? Who should be doing it; public authorities or private bodies? What is the relation between sanitation and water management? The panellists were in support of the active participation of the private sector for its ability to reach newest technologies in a competitive environment for providing wastewater treatment plants, sewerage systems and utilization of non-conventional water supplies. It was stated that internalization of external costs such as costs of energy, land consumption and environmental impacts should be calculated in order to see the real cost of water consumption. Development of smart metering technologies and better assessment of leakage, pipes and wastewater actually used were suggested among some of the many measures to be taken for achieving feasible supply and demand correlation. Finally, the link between water and public health was pointed at by referring to the need for investment in sanitation as a preemptive health service.



REGIONAL FOCUS MEETINGS

Regional Focus Meetings were held on four regions: the Middle East, Central Asia, Eastern Europe and Turkey

The regional contributions to the 2nd Istanbul International Water Forum were implemented through a series of Regional Focus Meetings (RFMs) held by the Forum Secretariat on four regions namely the Middle East, Central Asia, Eastern Europe and Turkey. These focal regions were selected in accordance with the framework of the 5th World Water Forum's *In and Around Turkey* sub-region.

The first series of RFMs were held prior to the Forum for each of the Forum's focal region in order to address water challenges and solutions particular to them and receive the recommendations of regional stakeholders in the process of shaping the Forum's thematic content. The Central Asia RFM particularly addressed the challenges of agricultural water use and lack of infrastructure, technical know-how and education, whereas the Eastern Europe RFM discussed the deficiency of the water network infrastructure and mismanagement of wastewater and the Middle East RFM put strong emphasis on the need for regional transboundary cooperation, the necessity for technical cooperation on capacity building and rationalization of national water strategies. The Turkey Focus Meeting centred on agricultural water management and food safety and security.

These fruitful meetings were followed by a second round that was held during the Forum to focus on the issues that were most highlighted in the first series of meetings. The RFMs held during the Forum gathered together international and regional water experts in closed roundtable meetings and provided a platform to address region-specific water challenges and solutions, with an aim to deliver them to the 6th World Water Forum in Marseilles in 2012.



Participants of the Middle East Regional Focus Meeting

Middle East Regional Focus Meeting

The Middle East RFM took place on the second day of the Forum. The meeting included the presentations of six regional water-related representatives on the challenges and suggested solutions related to the subjects of “Water and Food Security” and “Regional Technical Cooperation on Water” in the Middle East.

The meeting was performed in two sessions. In the first session, presentations focused on the water poverty that threatens food security in the region. Participants highlighted the need for fundamentally new management paradigms, utilization of non-conventional water supplies (e.g. desalination, water reuse, rainwater harvesting and transfers between basins and across borders), implementation of IWRM and the importance of transparency and data sharing between countries for capacity building. The concept of virtual water trade was promoted as a tool for regional water security and all participants agreed that water and food security should be accepted as a national security issue.

The second session discussed the challenges and opportunities for regional technical cooperation on water in the Middle East. The panellists identified the lack of cooperation and coordination at both national and regional levels for an integrated approach to water resources management and pointed at the need for scientific research, monitoring, capacity building, standardization of data collection, data sharing and development of regional databases. All agreed that regional cooperation can bring about economic benefits, secure water resources and safeguard equitable access to water and suggested that the countries in the region should constitute a regional stability in order to create common regulations. Participants especially stressed the importance of political will, which must be ensured during this process.

Chair:	İlter TURAN , Istanbul Bilgi University, Turkey
Presenters/ Panellists:	<p>Imane ABDEL AL, World Water Council (WWC); Association of the Friends of Ibrahim Abd El Al (AFIAL), Lebanon <i>“Regional Technical Cooperation on Water”</i></p> <p>Emad ADLY, Arab Network for the Environment and Development (RAED), Egypt <i>“Water and Food Security - Civil Society Perspective”</i></p> <p>Murad J. BINO, Inter-Islamic Network on Water Resources Development and Management (INWRDAM), Jordan <i>“Water and Food Security in the MENA Region”</i></p> <p>Jauad EL KHARRAZ, Euro-Mediterranean Information System on Know-How in the Water Sector (EMWIS) <i>“Water Data, Technology Transfer and Capacity Building in the Mediterranean”</i></p> <p>Ahmed FARAHAT, National Planning Institute of Egypt, Egypt <i>“The Nile Basin Case”</i></p> <p>Waleed Ahmad SUKKAR, Ministry of Water and Irrigation, Jordan <i>“Sharing Water, Sharing Benefits”</i></p>



Middle East Regional Focus Meeting

Chair's Summary

Key discussion topics and messages of the Middle East Regional Focus Meeting are listed as follows:

1. Water scarcity in the Middle East

The Middle East is an arid region and water is getting scarcer every day. Overpopulation leads to higher water demand and climate change results in more water scarcity. Agriculture is the main water consumer, but brings low economic return. Currently, about 80% of the total water resources in the region are used to produce food. However, available water for agriculture is declining while more food is needed for growing populations. Severe water poverty is near. There is a need for a shift of focus from development to better management of water through utilizing non-conventional methods for water use efficiency (e.g. reuse, desalinization, rain water harvesting, transfers between basins and across borders, virtual water trade, and alternative irrigation practices).

2. Water use efficiency

The threat of a water-short future necessitates fundamentally new management paradigms to increase water use efficiency. One new method is Regulated Deficit Irrigation (RDI), which allows the farmer to control the time and amount of irrigation water – a strategy that maximizes economic returns, minimizes water losses and provides savings at the farm level. Governmental incentives, insurance systems and capacity building are necessary to make such new methods become widespread.

At national level, virtual water trade is another new paradigm. Water is the concern of the whole globe and countries should accept water and food security as a national security issue. Water-scarce countries should cooperate in trading products that consume high amount of water, instead of producing them domestically. Countries generally abstain from depending on each other, but there is already a considerable food trade between Arab countries and Turkey, which should be managed in a cooperation-wise way in terms of virtual water exchange. The concept should be applied within a basin instead of a single country and opportunities for virtual water trade should first be sought within the region.

Reuse of water is a new concept in the region, but will become widespread in time.

There is lack of cooperation and coordination both at national and regional levels for an integrated approach to water resources management (IWRM). A demand management system is needed for water use efficiency. IWRM should involve a participatory process where all actors are involved and work in unity. Transparency should be granted and information and data exchange between countries should be the primary object for capacity building.

3. Regional cooperation

The region mostly has similar challenges and threats on water resources; therefore they have to find some common solutions. Regional cooperation can achieve economic benefits, secure water resources and safeguard equitable access to water. Cooperation should be geared to long term goals. However, the fact that some countries in the region are still in conflict with each other makes cooperation difficult. Political will and trust building is indispensable for the cooperation process. Countries in the region should constitute a regional stability to create common regulations.

Regional cooperation should involve information and data sharing, standardization of data collection and presentation, monitoring, development of regional databases, cooperation in joint scientific research projects, training, technical assistance and technology transfer. Transparency in sharing water data is a sensitive issue because of the delicate political situation in the region. Some neutral agencies may serve as negotiators in the process.

4. The role of public diplomacy

The recent revolution in Egypt has shown the power of the civil society and that the NGOs can affect policy makers. Public diplomacy can really make a difference in cooperation and should be the essential instrument for civil dialogue. Public diplomacy involves the process of dialogue, cooperation and partnership between civil society organizations, the media, private sector, local communities and others, but governments. It is about forming a public opinion through building networks among different actors and pursues dignity and social justice for all.

Central Asia Regional Focus Meeting

The Central Asia Regional Focus Meeting was held on the first day of the Forum. The meeting was moderated by İler TURAN and addressed the topic “Agricultural Challenges focusing Food Security in Central Asia from Regional and National Perspectives”. The Turkish International Cooperation and Development Agency (TIKA) also contributed the organization of the meeting. Besides primal Central Asia countries (Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, Uzbekistan), there were also participants from Ukraine and Caucasus countries (Azerbaijan and Georgia).

Key themes and topics discussed were: change in cropping patterns, low agriculture productivity, population growth, poor irrigation systems, deterioration of water quality, lack of mid and long-term national agricultural policy, expensive credit resources and insufficient government support, weak training-consulting services to farmers, unsustainable water resources management due to non-coordinated planning and lack of integrated water resources management.

The meeting concluded that water security is the key for regional food security. A more efficient allocation and integrated management of water resources based on regional cooperation and agrarian specialization, institutional and legal reforms, affordable technologies and finance are the top priorities for water security. Articles 46-50 on “Water and Food for Ending Poverty and Hunger” included in the Istanbul Water Guide, an important political output of 5th World Water Forum, were accordingly addressed.



Participants of the Central Asia Regional Focus Meeting

Chair:	İlter TURAN , Istanbul Bilgi University, Turkey
Keynote Speaker:	Bart SCHULTZ , UNESCO-IHE Institute for Water Education <i>"Water Management and Agriculture Challenges Focusing Food Security in Central Asia"</i>
Presenters/ Panellists:	<p>Azerbaijan</p> <p>Mammad ASADOV, Azerbaijan Irrigation and Water Azhdar JAVADOV, Azerbaijan Irrigation and Water</p> <p>Georgia</p> <p>Tamar KHMALADZE, Georgia Ministry of Agriculture and Amelioration Directorate <i>"Agriculture Irrigation of Georgia"</i> Alexander MINDORASHVILI, Georgia Ministry of Environmental Protection <i>"Water Initiative and Integrated Water Management in Georgia"</i></p> <p>Kazakhstan</p> <p>Serik KUMASHEV, Kazakhstan Sanitary Epidemiology Center of Radiology Expertise Nurzhamal SARSENOVA, Kazakhstan Sanitary Epidemiology Center of Radiology Expertise Mukhtar ZHAKENOV, Kazakhstan Ministry of Agriculture <i>"Agricultural Problems Related to the Food Security of the CA countries"</i></p> <p>Kyrgyzstan</p> <p>Ilia DOMASHOV, Kyrgyzstan NGO Ecological Movement BIOM <i>"Water Situation and Climate Changes as Challenges of Agricultural and Food Security in Kyrgyzstan"</i> Ekaterina PAVLOVNA SAHVAEVA, Kyrgyzstan State Committee of Water Economy and Melioration <i>"Food Safety of Kyrgyzstan"</i></p> <p>Tajikistan</p> <p>Ali KARAEV, Tajikistan NGO "Water Consult" <i>"Problems of Agriculture and Food Security in Tajikistan"</i> Yarash E. PULATOV, Tajikistan Hydraulic Engineering and Land Reclamation Institute <i>"Efficiency of Use of Water Resources and Food Security"</i></p> <p>Turkmenistan</p> <p>Oleg GUCHGELDIYEV, Environmental and Agricultural Expert for UNEP, EU, World Bank, GEF, UNDP <i>"Issues Affecting Food Security in Turkmenistan"</i></p> <p>Ukraine</p> <p>Ganna GRYNKO, Ukraine Ministry of Ecology and Natural Resources Liudmyla KALITKA, Ukraine Ministry of Ecology and Natural Resources</p> <p>International Organizations</p> <p>Giovanni MUNOZ, Food and Agriculture Organization of the United Nations (FAO) Sub-regional Office for Central Asia <i>"Poverty and Irrigated Agriculture in Central Asia"</i> Vadim SOKOLOV, Global Water Partnership (GWP) Central Asia and Caucasus; Interstate Commission for Water Coordination - Scientific Information Centre (ICWC-SIC) <i>"How Water Resources Can be Used to Better Affect Water, Food and Energy in Central Asia"</i></p>

Central Asia Regional Focus Meeting

Chair's Summary

The Central Asia RFM themed *"Agricultural Challenges focusing Food Security from Regional and National Perspectives"* concluded that water security is the key for regional food security. A more efficient allocation and integrated management of water resources based on regional cooperation and agrarian specialization, institutional and legal reforms, affordable technologies, finance are the top priorities for water security.

In terms of efficiency in water use, Central Asia is in a very poor condition. The main conflict in allocation of water is between agriculture and energy sectors. Upstream countries' (Kyrgyzstan and Tajikistan) priority is energy production, whereas downstream countries need water for irrigation; thus, one has to analyze the current situation carefully to increase productivity, efficiency and come up with new strategies for distributing water. In the attempt to increase efficiency, three basic aspects should be attended very carefully: social equity, economic efficiency and environmental stability.

Key themes and topics discussed:

- Change in cropping patterns
- Low agriculture productivity
- Poor irrigation systems (water user associations (WUAs) with low budget, no measurements, no records, old pumping stations, high electricity bills)
- Deterioration of water quality
- Population growth
- Lack of mid- and long-term national agricultural policy
- Expensive credit resources and insufficient government support
- Weak-training and consulting services to farmers
- Unsustainable water resources management due to the non-coordinated planning and lack of Integrated Water Resource Management (IWRM)

General recommendations:

- IWRM and Water Governance System which provide horizontal integration among different sectors and actors such as the governments, agencies and farmers
- Extending Water Users Associations (WUA) around the world
- Regional Framework Agreement for cooperation for the efficient allocation of resources and management of water

- Regional division of production for agricultural products in order to ensure food security
- Changing the way of defining the farmers. Farmers are managers of economic units, whereas peasants keep repeating the routine for survival.
- Being creative in doing things such as new crops, new water management strategies, new tariffs
- Development of national policies in agricultural sector and investment
- Development of financial and monetary systems
- Development of training-consulting services
- Enhancement of rainwater and nutrient use efficiency to improve crop productivity
- Shift of water-thirsty crops to areas with lower water requirements
- Compliance with the European Union standards in IWRM (the case of Georgia)
- Increase in water prices when the actual consumption of water exceeds the biological consumption level
- Installation of drainage in irrigated areas
- Efficient irrigation methods in order to prevent water losses
- Improvement of hydroenergy efficiency (the case of Tajikistan)

Governments may sometimes be very critical of new and creative approaches. There is absence of participatory mechanisms. Special advisory bodies for governance of water resources can be helpful. Public-private partnership (PPP) can also be a solution that should be explored thoroughly.

Technical cooperation can be the first step for regional cooperation. The Rhine River Commission is a successful example of joint research and technological data sharing between countries. Cooperating in other areas than water that can be achieved more easily might create a spillover effect to water cooperation.

National representatives of this meeting shared the views of international representatives and committed to deal with problems together.

The messages of the Central Asia Regional Focus Meeting will motivate the academic studies of Turkish Water Institute. The Turkish Water Institute that is to be established in the near future will aim to be a think tank and database focusing on the regions around Turkey.

The conclusions of this meeting will be presented to the 6th World Water Forum and other relevant water events.



Eastern Europe Regional Focus Meeting

The Regional Focus Meeting for Eastern Europe was organized on the second day of the Forum with the valuable support of the Turkish International Cooperation and Development Agency (TIKA).

The meeting was attended by government officials and representatives from international organizations and discussed implementation of Integrated Water Resources Management (IWRM) in the region.

Lack of financial resources in water management sector, inadequate water and river basin strategies and management plans, out-dated bylaws and regulations and lack of political and technical support were highlighted during the meeting. It was stressed that the transboundary water issue is a concern for all Eastern European countries. Transposition and implementation of the EU Water Framework Directive was given special emphasis by the participants.

Implementation of proper IWRM systems including EU Water Framework Directive, creation of a single coordination and management authority within every country, encouragement of public participation in decision making process as well as bilateral and international cooperation were presented as possible solutions. It was also emphasized that economic analysis and standard measures should be revised in order to increase human and financial resources and supply more technical support.



Participants of Eastern Europe Regional Focus Meeting



Chair:	Sumru NOYAN , Organization of the Black Sea Economic Cooperation (BSEC)
Presenters/ Panellists:	<p>Albania Arben MUKAJ, Ministry of Agriculture, Food and Consumer Protection Alfred OMURI, Ministry of Agriculture, Food and Consumer Protection <i>"Water Resources Management in Albania"</i></p> <p>Bosnia and Herzegovina Aziz COMOR, Ministry of Agriculture, Water Management and Forestry Alma IMAMOVIC, Ministry of Agriculture, Water Management and Forestry <i>"Integrated Water Management in Bosnia and Herzegovina"</i></p> <p>FYR of Macedonia Bojan DURNEV, Ministry of Agriculture, Forestry and Economy <i>"Integrated Water Resources Management"</i> Aleksandar SAPUNDJIOVSKI, Ministry of Agriculture, Forestry and Economy</p> <p>Kosovo Naser BAJRAKTARI, Ministry of Environment and Spatial Planning Merita MEHMETI, Ministry of Environment and Spatial Planning <i>"Integrated Water Resources Management in Republic of Kosovo"</i></p> <p>Moldova Elena BREAHA, Ministry of Environment Dimutri PROCA, Ministry of Environment <i>"Regional Collaboration on Water Resources Management"</i></p> <p>Montenegro Zorica DJURANOVIC, Ministry of Agriculture and Rural Development <i>"Water Management in Montenegro"</i> Aleksandar RADUNOVIC, Ministry of Agriculture and Rural Development</p> <p>Serbia Bosko GAJIC, Belgrade University Jordan MILIVOJEVIC, Water Users Association in Irrigation <i>"The Water Demand in the Republic of Serbia and Integrated Water Resources Management in the Danube Basin"</i></p> <p>International Organizations Janos FEHER, Global Water Partnership Central and Eastern Europe (GWP CEE) <i>"Challenges and Solution in CEE Region"</i> Mykola MELENEVSKIY, International Commission for the Protection of the Danube River (ICPDR) <i>"International Cooperation in Water Management"</i> Volodymyr MYROSHNYCHENKO, Commission on the Protection of the Black Sea Against Pollution <i>"enviroGRIDS Project: Building Capacity for a Black Sea Catchment Observation and Assessment System supporting Sustainable Development"</i> Yordan UZUNOV, UN Secretary General's Advisory Board on Water and Sanitation (UNSGAB) <i>"Integrated Water Management"</i></p>

Eastern Europe Regional Focus Meeting Declaration *

Integrated Water Resources Management (IWRM) in Eastern Europe

Integrated Water Resources Management (IWRM) is a process, which promotes the coordinated development and management of water, land and related resources, in order to maximize the resultant economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems.

IWRM takes into consideration the global environmental issues, considers measures to improve human health, fosters economic growth, sustainable agricultural development, and promotes democratic participation in governance.

Challenges:

- Common disasters and issues that are frequently faced and pose major threats, i.e. floods, droughts, water scarcity, hydromorphological alterations, organic/nutrient/hazardous substances pollution and pollution caused by human activities
- Creating and improving national legislation in the water management sector harmonized with EU Water Directives where applicable
- National and transboundary water issues
- Lack of financial resources and limited budgets allocated by governments for water issues
- Lack of political will and support (unresolved political status in some areas), lack of technical support
- Inadequate water, river basin strategies and management plans
- Outdated bylaws and regulations

To address these issues, an economical analysis should be made and standard measures should be revised in order to increase human and financial resources to address and provide more technical support.

All areas, including energy, production, agriculture, fisheries, finance, environment, tourism, industry, healthcare are dependent on water.

Ongoing actions:

- Ensuring high-quality monitoring level
- Improving warning systems
- Enhancing capacity building
- Harmonization, revision and modernization of current legislations
- Safe sanitation

Future plans/solutions:

- Implementing proper IWRM systems, including the EU Water Directive, more effectively
- Considering water storage
- Ensuring bilateral and international cooperation
- Completing strategic and legal frameworks
- Creating a single coordination and management authority within every country
- Encouraging stakeholder involvement
- Demanding interactive policy development
- Planning interactively
- Finding a balance between an integrated approach and a sectoral approach
- Developing public participation for ensuring cooperation in the decision-making process
- Raising public awareness by various means such as media, internet etc.
- Balancing economic interests with environmental needs
- Making use of research and development in the decision making process

A Turkish Water Institute that is to be established in the near future will be a long-lasting project. Regional Focus Meetings are very important and will be used by the Turkish Water Institute, which will serve as a think-tank and data base for collection of information and data, focusing on the neighboring countries such as those in Eastern Europe, the Middle East and Central Asia. Cooperation and contacts with the participants of the Focus Meetings will continue.

The conclusions of this meeting will be presented to the 6th World Water Forum and other relevant water events.

* The Eastern Europe Regional Focus Meeting Declaration was adopted by the meeting participants and Chair Sumru Noyan.

Turkey Focus Meeting

The Turkey Regional Focus Meeting was held on the first day of the Forum. In the meeting, topics that were put forward in the first focus meeting held prior to the Forum on 13 April 2011 were further examined under the following four headings in two separate sessions:

Session I, chaired by Ayşegül TANIK, covered the following subjects:

- Green Practices in Agricultural Water Management
- Agricultural Production and Food Safety and Security

Session II, chaired by Ali Ünal ŞORMAN, discussed:

- Irrigation Technologies, Water Pricing and Crop Pattern
- Latest Legal Arrangements on Water Users Unions and their Effects

The meeting was attended by estimable experts, scientists and representatives from state institutions, non-governmental organizations and universities. During the sessions, challenges and possible solution options in agricultural water management of Turkey were elaborately discussed with broad participation of key stakeholders.

Focusing on sustainable agricultural production and food safety and security, the meeting covered the necessity of modern irrigation systems, integrated basin management, green agriculture practices, training of farmers and effects of new regulations and policies on water users unions.



Participants of the Turkey Focus Meeting

Chairs:	Ali Ünal ŞORMAN , Middle East Technical University (METU), Turkey Ayşegül TANIK , Istanbul Technical University (ITU), Turkey
Presenters/ Panellists:	Sedef AKGÜNGÖR , Dokuz Eylül University, Turkey <i>"Agricultural Production and Food Safety and Security"</i> Turhan AKÜZÜM , Ankara University, Turkey <i>"Water Pricing and Crop Pattern"</i> Mahmut ÇETİN , Çukurova University, Turkey Yaşar DASTAN , Food and Agriculture Organization of the United Nations (FAO) Buket Bahar DIVRAK , World Wildlife Fund (WWF) <i>"Green Practices in Agricultural Water Management"</i> Hakan GÜNLÜ , State Planning Organization of Turkey Ahmet KASALAK , General Directorate of State Hydraulic Works (DSİ) <i>"The Recent Legislation on Irrigation Unions"</i> Süleyman KODAL , Ankara University, Turkey <i>"Irrigation Technologies"</i> Nüvit SOYLU , Union of Irrigation Cooperatives of Turkey Bülent SÖNMEZ , Ministry of Agriculture and Rural Affairs of Turkey <i>"Agricultural Production and Food Safety and Security"</i> Ahmet ŞAHİNÖZ , Hacettepe University, Turkey Halis UYSAL , Union of Irrigation Cooperatives of Turkey <i>"Latest Legal Arrangements on Water Users Unions and Their Effects"</i>

Turkey Focus Meeting Chair's Summary

The Turkey Focus Meeting themed "Agricultural Water Management and Food Safety" identified the following water problems, initiatives and recommendations:

Problems:

The most significant problem in agricultural water management is the inefficient use of water.

- Evaporation, leakage and water losses cause inefficiency in traditional irrigation systems
- Overexploitation and illegal wells cause diminishment in quantity and quality of groundwater
- Chemical agricultural inputs result in degradation of water quality. Use of low-quality ground and surface waters in irrigation threatens food safety
- Inadequate residual controls
- Problems in attaining sufficient and qualified information at basin level
- Coordination and information sharing among public institutions are not at desired levels

Initiatives:

- Ministry of Agriculture and Rural Affairs provides grants and interest-free credits in order to achieve food safety
- Action plans and strategies for drought management are enforced
- Law on irrigation unions that has been put into effect recently has filled the legal gap and enhanced the participation of water users

Recommendations:

- Agriculture and water basins should coincide with each other and "a national data bank" of land and water resources should be created
- A holistic approach should be adopted in agricultural water management and participation should be taken as a priority principle
- A "National Food Safety Strategy" based on the EU's "*from the farm to the fork*" approach should be adopted. Turkey's approach on food safety should be transparent and risk-based
- Residual controls for water and food should be improved and residual limits should be established
- Wastewater should not be used in irrigation without proper treatment
- The high potential of organic agriculture should be put into good use
- Nationwide agricultural production planning should be devised, drought-resistant crops should be developed and crop patterns should be determined in accordance with regional characteristics
- Modern irrigation techniques should be encouraged
- Pricing of water should be based on amount of the water used; if not possible, on the number of water deliveries
- Irrigation projects should be carried out by experts
- Farmers should be educated on how to use water efficiently
- On small-scale irrigation fields, irrigation cooperative model should be encouraged in agricultural water management



THEMATIC SESSIONS

More than hundreds of scientists, engineers, representatives of private and public sector and the civil society were congregated in the Thematic Sessions

The organization of the Thematic Sessions of the 2nd Istanbul International Water Forum was a joint effort between the General Directorate of State Hydraulic Works (DSI) and the Thematic Coordination Team of the Forum Secretariat.

The thematic sessions were mainly shaped focusing on the water-related challenges of the Forum's focal regions. Six sub-themes were accordingly identified, namely; Regional Technical Cooperation on Water, Water for Energy, Agricultural Water Management, Global Climate Change and Water, Urban Water Management, and Water Resources Management and Water Culture. Each theme was coordinated by a group of official representatives, academicians and supporting experts. Considering the content and aim of the themes, several sessions were identified under each theme to response the challenges related to the concerned issue.

More than hundreds of scientists, engineers, representatives of private and public sector and the civil society were congregated in the sessions to highlight new mechanisms, solutions and approaches to regional water problems. Highlights derived from each theme were further discussed in the wrap-up sessions and were then brought to the related High Level Panels.



Yaşar YAKIŞ, Former Minister of Foreign Affairs of Turkey, giving an introductory speech in Session 1.2. Regional Technical Cooperation on Water II

Theme 1 – Regional Technical Cooperation on Water

Theme 1 was performed under two successive sessions, which addressed the importance of promoting a well-functioning Integrated Water Resources Management (IWRM) at all levels in order to achieve a sustainable and successful regional cooperation. The sessions concluded that cross-sectorial integration and participation of multiple stakeholders in the decision-making process should be supplemented with a case-specific approach that takes the peculiarities of the river basins into consideration. Throughout the sessions, regional case studies across the EU, North America, Middle East, Black Sea and Turkey were presented and discussed in a transboundary context. These case studies indicated that cooperation among riparian states requires a combination of common political will and participation of related organizations in the decision making process.

Session 1.1. Regional Technical Cooperation on Water I

Moderator:	Klas SANDSTROM , Ramboll Natura AB, Sweden
Keynote Speakers:	Jean François DONZIER , International Office for Water <i>"The Regional Cooperation on Water within the European Union and with its Neighbouring Partner Countries, Main Policies and Tools, Examples on Basins Management"</i> Habib N. EL HABR , United Nations Environment Programme Regional Office for West Asia (UNEP/ROWA) <i>"UNEP and its Role in International Cooperation for the Sustainable Management of Water"</i>
Presenters/ Panellists:	Jerome DELLI-PRISCOLI , United States Army Corps of Engineers (USACE); World Water Council (WWC) <i>"U.S. Experiences with IWRM and River Basin Organizations"</i> Mithat RENDE , Ministry of Foreign Affairs of Turkey <i>"International Cooperation on Water Issues in Transboundary Context"</i> Jan LEENTVAAR , UNESCO-IHE Institute for Water Education <i>"National and International Actors, Institutional Setting and Knowledge-based Collaboration in River Basin Management - Case of River Rhine"</i>

Session 1.2. Regional Technical Cooperation on Water II

Moderator:	Yaşar YAKIŞ , Former Minister of Foreign Affairs of Turkey
Presenters/ Panellists:	İbrahim KAYA , Çanakkale Onsekiz Mart University, Turkey <i>"International Law and Cooperation on Water: Challenges and Opportunities"</i> Nader KHATEEB , Friends of the Earth Middle East <i>"Towards a Living Jordan River: A Regional Strategy to Rehabilitate the Lower Jordan River"</i> Ahmet KIDEYŞ & Volodymyr MYROSHNYCHENKO , Permanent Secretariat of the Commission on the Protection of the Black Sea Against Pollution <i>"Regional Cooperation in Protection of the Black Sea Environment"</i> Ünal ÖZİŞ , Dokuz Eylül University, Turkey <i>"Transboundary Cooperation in Euphrates-Tigris Basin"</i>

Theme 1 Wrap-Up Session

Moderators:	Mehmet KARPUZCU , Gazikent University, Turkey Klas SANDSTROM , Ramboll Natura AB Yaşar YAKIŞ , Former Minister of Foreign Affairs of Turkey
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Theme 2 – Water for Energy

The “Water for Energy” theme was composed of two interrelated sessions and a supplementary panel titled as “Challenges and Solutions on Development of Water Energy”, all complementing each other. Altogether they reflected a holistic perspective on the interconnectedness of water, energy and environment. In general, current situation of hydropower facilities both in terms of technical and institutional regulations were handled with particular references to case studies from Turkey and the Forum’s focal regions.

Session 2.1. Development of Water Energy Potential: Legislation and Policies

The major aim of the session was to highlight the different practices of hydropower development processes in Europe by referring to plans, legislations and licensing practices currently in operation. The session argued that the prominent reason for water and energy poverty is mainly due to limited socio-economic development. Thus, in order to maximize the efficiency in hydropower potential, there is a need for comprehensive financing and governing mechanisms. Promoting public-private collaboration complemented with milder bureaucratic entailments was put forward as a prerequisite for hydropower potential development.

Moderator:	Doğan ALTINBİLEK , World Water Council (WWC); Turkish Hydropower Association (TURSEB)
Keynote Speaker:	Luis BERGA , International Commission on Large Dams (ICOLD) <i>“Hydropower and Dams for Sustainable Development”</i>
Presenters/ Panellists:	Enver ABİRAL & Johannes LINORTER , Pöyry Energy GmbH, Germany <i>“Hydropower Sector – Comparison of Turkey & the European Countries”</i> Atilla ATAÇ , Kolin Construction, Turkey <i>“Hydropower Energy Demand: Problems and Solutions”</i> Bjørn WOLD , Statkraft AS, Norway <i>“Hydropower Licensing Experiences and Implementation of the EU Water Directive”</i>

Session 2.2. Interactions between Water, Energy and Environment

The aim in this session was to expose the possible methods for ensuring sustainability in hydropower projects via presenting technical and legislative applications currently in operation from different regions. Among the reasons that make hydropower a highly preferable form of energy, having multipurpose benefits such as storage, irrigation, flood control and sustainable development were mentioned as notable ones. When developing hydropower projects, certain aspects such as environmental flows, biodiversity and socioeconomic features should be considered within an integrated basin management approach. This session revealed the need for deliberative, transparent and inclusive environmental impact assessment plans as a priority for all hydropower projects.



Panellists of Session 2.1. Development of Water Energy Potential: Legislation and Policies

Moderator:	Salih PAŞAOĞLU , Essentium Energy Investment Inc.; Former Undersecretary at the Ministry of Energy and Natural Resources of Turkey
Presenters/ Panellists:	<p>Alison BARTLE, The International Journal on Hydropower & Dams <i>"The Role of Hydropower on Socio-economic Development"</i></p> <p>Olav Peter HYPER, Statkraft AS, Norway <i>"Sustainable Hydropower"</i></p> <p>Fevzi İŞBİLİR, Ministry of Environment and Forestry of Turkey <i>"EIA Implementation for Dams and HEPPs"</i></p> <p>Jian Hua MENG, World Wildlife Fund (WWF) <i>"Planning for Development and Conservation - The Hydropower Sustainability Assessment Protocol"</i></p> <p>Peter RUTCHSMANN, Munich Water Institute, Germany <i>"An Innovative Ecologic and Economic Hydropower Concept"</i></p>

Session 2.3. Challenges and Solutions on Development of Water Energy

This session gave the key message that "in order to create a successful hydropower policy, all of the social, economic and environmental dimensions should be taken into account." Since fossil resources are unevenly distributed around the globe, countries without adequate reserves should evaluate utilizing available water sources for energy in order to mitigate energy dependency. Cooperation between private sector and the government is deemed necessary where governments are unable to handle the financial cost of the projects. The session provided a platform for discussing the current trends and conditions in hydropower capacity around the world in the light of statistical data. Current situation of hydroelectric powerplant projects and future predictions including the probable advantages and risks also received special attention.

Part I	
Moderator:	Cüneyt GEREK , General Directorate of State Hydraulic Works (DSI)
Panellists:	Fahrettin Amir ARMAN , Hydroelectricity Plants Industrial Businessmen Association (HESIAD), Turkey Selami OĞUZ , Turkish Water Foundation Ebru ÖZDEMİR , Limak Holding, Turkey Salih PAŞAOĞLU , Essentium Energy Investment Inc.; Former Undersecretary, Ministry of Energy and Natural Resources of Turkey
Part II	
Moderator:	Mustafa ELDEMİR , Ministry of Environment and Forestry of Turkey
Panellists:	Yesim AKÇOLLU , World Bank Özcan DALKIR , General Directorate of State Hydraulic Works (DSI) Zeki DEMİRCİ , Doğuş Construction, Turkey İsmail GÜNEŞ , General Directorate of State Hydraulic Works (DSI)

Theme 2 Wrap-Up Session

Moderator:	Doğan ALTINBİLEK , World Water Council (WWC); Turkish Hydropower Association (TURSEB)
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Theme 3 – Agricultural Water Management

This theme discussed the challenges encountered in the sustainable management of water in terms of agricultural production. Effects of recent climate change on decreased water resources and sustainable agriculture were addressed. Participants stated that more multidisciplinary and integrated approaches are needed for the construction and use of modern irrigation systems. It was also underlined that in order to increase agricultural efficiency, it is necessary to decrease the costs in the systems where energy costs are high and irrigation level is low. Participatory irrigation management and reuse of wastewater in irrigation for sustainable and effective agriculture were the other highlights of the theme.

Session 3.1. Irrigation Management Practices

The session tackled global water scarcity caused by climate change in relation to the changing world economy and population growth. Modern irrigation systems such as sprinkle and drip irrigation and renovation of existing systems were pointed out as means for combatting water scarcity and efficient agricultural water management. Irrigation methods for reducing water and energy losses were also highlighted for more efficient agricultural activities.

Moderator:	İzzet ÖZTÜRK , Istanbul Technical University (ITU), Turkey
Keynote Speaker:	Mokhtar BZIOUI , World Water Council (WWC) <i>"Managing Water Scarcity"</i>
Presenters/ Panellists:	Erkan EMİNOĞLU , General Directorate of State Hydraulic Works (DSİ) <i>"Optimum Operation Models for Pumping Irrigation Systems"</i> Ivan IGLESIAS , Agbar, Spain <i>"Advanced Management of Modern Irrigation Systems"</i> Yashar KAHRAMANLI , Azerbaijan Architectural and Civil Engineering University <i>"Water Resources of Azerbaijan and Rational Ways of their Use"</i> Servet YAZAR , Water Users Association, Turkey <i>"Good Practices in Agriculture and Irrigation"</i>

Session 3.2. Irrigation Structures: Challenges and Solutions

The aim of the session was to discuss the importance of the rehabilitation of existing structures and its benefits for effective and efficient irrigation. Different types of water supply systems from various countries and regions were presented with regard to their influence on irrigation water management. Underlining the importance of increasing water use efficiency and agricultural production, the relationship between poverty and irrigated agriculture in Central Asia was examined. Factors associated with low efficiency in irrigated agriculture were specified and proposed solutions were presented.

Moderator:	Akif ÖZKALDI , General Directorate of State Hydraulic Works (DSİ)
Keynote Speaker:	Ari MICHELSEN , Texas AgriLife Research Centre, USA <i>"Effective Agricultural Water Management Requires Multidisciplinary, Integrated Approaches"</i>
Presenters/ Panellists:	Seyit AKSU , General Directorate of State Hydraulic Works (DSİ) <i>"Rehabilitation and Modernization of Irrigation Networks in Turkey"</i> Ali Barakat AL ADWAN , German Technical Cooperation (GIZ), Jordan <i>"Participative Irrigation Management in the Jordan Valley"</i> Nadide DEMİR , General Directorate of State Hydraulic Works (DSİ) <i>"Drainage and Water Table Evacuation Problems"</i> Giovanni MUNOZ , Food and Agriculture Organization of the United Nations (FAO) Sub-regional Office for Central Asia <i>"Poverty and Irrigated Agriculture in Central Asia"</i> Daniel TUGUESS , Agbar, Spain <i>"Advanced Automated Irrigation Systems at Plot Level"</i>

Session 3.3. Much, Less or Virtual Water?

This session compared examples from various countries regarding agricultural production and efficiency in search for optimum water management practices for adequate food production. Measures to be taken towards effective and efficient use of agricultural water were discussed. Alternative solution suggestions were presented as models for Konya basin in terms of mismanagement of water resources that leads to agricultural drought in food production. Water reuse in agriculture, the importance of wastewater treatment, features of treatment plants were discussed. The concepts of water footprint and virtual water were highlighted with regard to water resources planning.



Panellists of Session 3.3. Much, Less or Virtual Water?

Moderator:	Mehmet Ali ÇULLU , Harran University, Turkey
Keynote Speaker:	Bart SCHULTZ , UNESCO-IHE Institute for Water Education <i>"Optimal Water Management Practices to Produce Sufficient Food for an Urbanizing World"</i>
Presenters/ Panellists:	Ceren AYAS , World Wildlife Fund (WWF) Turkey <i>"Water Footprint"</i> Mustafa Özgür BERKE & Buket Bahar DIVRAK , World Wildlife Fund (WWF) Turkey <i>"Climate and Hydro-Modelling Study for Konya Closed Basin in the Face of Climate Change"</i> İzzet ÖZTÜRK , Istanbul Technical University (ITU), Turkey <i>"The Reuse of Treated Waste Water"</i> Çetin PALTA , Konya Soil Water Research Institute, Turkey <i>"Drought"</i>

Session 3.4. Is Participatory Irrigation Management a Dream?

In this session, strengths and weaknesses of Participatory Irrigation Management (PIM) models that have been on the agenda of many countries for the last 20-30 years were reviewed. Various examples of PIM models were discussed. “The less irrigation water, the more irrigated area” principle was underlined for the efficient use of water in agriculture. The concept of public-private partnership (PPP) and its scope were discussed in detail with regard to irrigation-based practices of the PPP programme of Turkey. Projects from different parts of the world where the PPP model is used, critical legal issues on PPP legislation tender process and project agreements that take into consideration the EU harmonization process were addressed. Different Water User Association (WUA) models were intensively tackled for their weaknesses and strengths in agricultural water management.

Moderator:	Ahmet Fikret KASALAK , General Directorate of State Hydraulic Works (DSI)
Presenters/ Panellists:	Mammad ASADOV , Azerbaijan Amelioration and Water Farm, Open Joint Stock Company <i>“Irrigation Distribution System and Management Improvement Project”</i> İhsan Oğuz BEYASLAN , Irrigation Union of South Yüreğir, Turkey <i>“Irrigation Associations”</i> Gürhan DEMİR , General Directorate of State Hydraulic Works (DSI) <i>“Participatory Irrigation Management in Turkey”</i> Giovanni MUNOZ , Food and Agriculture Organization of the United Nations (FAO) Sub-regional Office for Central Asia <i>“Irrigation Management Transfer: Worldwide Efforts and Results”</i> Sami ÖZSEÇEN , Irrigation Union Association of Turkey (SUBIRDER) <i>“Irrigation Associations”</i> Halis UYSAL , Irrigation Cooperatives Union of Turkey <i>“Irrigation Cooperations”</i>

Theme 3 Wrap-Up Session

Moderator:	İzzet ÖZTÜRK , Istanbul Technical University (ITU), Turkey



Theme 4 – Global Climate Change and Water

The sessions under Theme 4 were based on the Hyogo Framework for Action (HFA), which is a 10-year plan that aims to make the world safer from natural hazards. The HFA is the first plan to explain, describe and detail the work that is required from all sectors and actors to reduce disaster losses. The issues were evaluated in accordance with governance, risk identification, knowledge management, risk reduction and preparedness. Impacts of climate change on water, water scarcity, drought and financial tools in risk management were among other key discussion topics of the theme.

Session 4.1. Hydro-meteorological Disasters

This session discussed the driving forces and pressures on hydro-meteorological disasters. It was noted that the frequency of droughts and floods in various regions of the world are increasing in terms of frequency and magnitude. The phrase “think global, act local” was adopted as a key message expressing a general agreement. The importance of linking activities from regional to global level was emphasized to develop a multidisciplinary and multi-sectoral approach and multinational cooperation and participation at all levels. A project in Korea undertaken with the purposes of securing water, river-oriented community development, creating public spaces for residents, improving water quality and restoring ecology and flood risk mitigation was evaluated as an example of regional cooperation. Awareness raising in disaster management, education, transparency, participatory approaches in climate change mitigation and adaptation strategies were addressed. It was also noted that governments should focus on “regional know-how sharing” at global level for risk identification, assessment, monitoring and early warning systems.



Session 4.1. Hydro-meteorological Disasters

Moderator:	Mikdat KADIOĞLU , Istanbul Technical University (ITU), Turkey
Keynote Speaker:	Il Pyo HONG , Korea Water Forum <i>"Climate Change and Water Disasters"</i>
Presenters/ Panellists:	Jauad EL KHARRAZ , Euro-Mediterranean Information System on Know-How in the Water Sector (EMWIS) <i>"Coping with Water Scarcity and Drought in the Mediterranean: Challenges and Solutions"</i> Orhan TOPÇU , Former Secretary of the Disaster Preparedness and Prevention Initiative for South Eastern Europe (DPPI SEE) <i>"The Water Related Hazards in South Eastern Europe and Financial Effects on Sustainable Development of the Region"</i> Murat TÜRKEŞ , Çanakkale Onsekiz Mart University, Turkey <i>"Impacts of the Regional Climate Change and Droughts on Hydrology and Water Resources in the Mediterranean Basin and Turkey"</i>

Session 4.2. Water Resources and Climate Change

This session focused on two questions: "how will climate change affect the water cycle" and "what are the key mitigation and adaptation strategies for reducing the environmental risks". Considering the impact of climate change on quality of life, health and food security, it was mentioned that practical solutions, new investments for increasing water use efficiency and use of improved technologies are vital for a better water resources management. The session also addressed the importance of a multidisciplinary and multi-sectoral approach. The panellists emphasized that water should be correctly and efficiently priced to mitigate the impacts of climate change on water resources. It was also underlined that the economical aspect of water policy should be taken into account while dealing with the adverse impacts of climate change and misuse of water resources.

Moderator:	Mehmet ÇAĞLAR , Turkish State Meteorological Service (DMI)
Keynote Speaker:	Karin KRCHNAK , The Nature Conservancy (TNC) <i>"Water Resources and Climate Change"</i>
Presenters/ Panellists:	Nihat ÇUBUKÇU , Weather Predict Consulting Inc. <i>"Managing the Regional Weather and Climate Risks"</i> Ayşe UYDURANOĞLU ÖKTEM , Istanbul Bilgi University, Turkey <i>"Water as an Economic Value"</i> Fredrick H. M. SEMAZZI , North Carolina State University, USA <i>"The Role of Climate Change in Modulating Hydroelectric Power Generation over the River Nile Basin"</i>

Session 4.3. Urban Adaptation to Climate Change and Water Resources

This session discussed the water-related problems created by the dynamics of urban development and sought for solution suggestions. These problems were also evaluated in the face of climate change, a very critical and current obstacle for today's urban problems. Within the context of the session, adaptation to climate change in urban areas, protection of water resources and urban planning approaches for sustainable development were presented and examples of successful applications were reviewed.

Moderator:	Azime TEZER , Istanbul Technical University (ITU), Turkey
Keynote Speaker:	Maciej ZALEWSKI , European Regional Center for Ecohydrology u/a UNESCO <i>"The Blue Green City of the Future"</i>
Presenters/ Panellists:	Douglas J. MEFFERT , Tulane University/Xavier Center for Bioenvironmental Research, USA <i>"Climate Change, Disasters and the Resilience of New Orleans: the Adaptation of Deltaic Urban Form"</i> Simon MILLS , City of London Corporation, UK <i>"Adapting to Climate Change - An Analysis of Practical Action and Potential Market Solutions to the Issue of Sustainable Urban Water Provision"</i> Klas SANDSTROM , Ramboll Natura AB, Sweden <i>"The Future is Urban, and Urban Water Managers Have to Live up to the Challenge!"</i>



Participants of Session 4.3. Urban Adaptation to Climate Change and Water Resources

Session 4.4. Water and Tourism

This session discussed the impacts of tourism on water resources and the concept of “sustainable tourism”. It was highlighted that studies on the environmental impacts of international tourism are rather focused upon other issues such as carbon emissions, wildlife protection, waste disposal, etc. and that water use in a couple of centuries’ time will be affected by several major driving forces: population increase, tourism policies and global climate change. The significant impacts of international tourism on freshwater resources were addressed. Participants underlined the fact that most of the popular holiday attractions are water scarce areas, such as islands, which tend to have limited water resources. Because of the unstable geographical and seasonal water consumption concentration of tourists, it was stressed that the water use pattern and management are often more important than the total amount of water available.

Moderator:	Dilek ÜNALAN , Boğaziçi University, Turkey
Keynote Speaker:	Jonathan CHENOWETH , University of Surrey, UK <i>“Water Scarcity and the Impact of Tourism in the Eastern Mediterranean”</i>
Presenters/ Panellists:	Nedim ÖZDEMİR , Muğla University, Turkey <i>“The Effects of Coastal Tourism on Water Resources in the Aegean Region and Climate Change”</i> Ecehan Esra TOP , Green Steps Environmental Literacy Association, Turkey <i>“The Impacts of Tourism on Water Resources in the Marmara Region”</i> Dilek ÜNALAN , Boğaziçi University, Turkey <i>“Water and Tourism in the Black Sea Region”</i>

Theme 4 Wrap-Up Session

Moderator:	Mikdat KADIOĞLU , Istanbul Technical University (ITU), Turkey
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Theme 5 – Urban Water Management

The aim of this theme was to underline the significance of Urban Water Management for bringing solutions to the problem of water scarcity caused by population growth and climate change in cities, where the majority of the world's population lives. Within this scope, Urban Water Management Plans that aim to supply the water needs of the cities and the benefits of the SCADA (Supervisory Control and Data Acquisition) system that is used in Urban Water Management Planning were tackled. It was also highlighted that cities that are in need for alternative water resources should have wastewater treatment plants in accordance with the EU standards. It was also suggested that these wastewater treatment plants should be constructed collectively by the private sector, public sector and universities with a build-operate-transfer (BOT) model.

Session 5.1. Urban Water Challenges around the World and in Turkey

The session tackled water scarcity challenges around the world with regard to the increasing global population. It was mentioned that 1.1 billion of people lack access to fresh water and this number is expected to raise into 3 billion in 2025 and 4 billion in 2050. Cities facing a high risk of future water scarcity should either increase their supplies or decrease their demands to sustainably manage their water resources. The significant impacts of climate change on water resources were also highlighted. It was referred that the increasing temperature, changing rain patterns, rising sea levels and corresponding changes in the hydrologic cycle will lead to greater water demand. Some precautions for a better urban water management were presented especially for the regions with the potential of future water shortage.

Moderator:	Ahmet SAMSUNLU , Istanbul Technical University (ITU), Turkey
Keynote Speaker:	Pierre LACONTE , Foundation for the European Environment (FFUE), Belgium <i>"Water Resources as Part of the Resource Availability Issue"</i>
Presenters/ Panellists:	Şeyma CİNGÖZ , Istanbul Water and Sewerage Administration (ISKI) <i>"Impacts of Climate Change on Water Resources"</i> Burak KÖROĞLU , Turkish Court of Accounts <i>"Domestic Water Management"</i> Ömer ÖZDEMİR , General Directorate of State Hydraulic Works (DSI) <i>"Domestic Water Supply in Watershed Based Applications"</i>

Session 5.2. Solutions Related to Wastewater

This session discussed wastewater management practices around the world and across the region. In developing countries, 90% of wastewater is discharged directly into rivers, lakes and oceans without treatment. This session focused on how wastewater can be reused in the most effective way in order to prevent water scarcity and degradation in the quality of freshwater. It was mentioned that many methods and strategies like desalination and segregation are developed to improve the efficiency of Wastewater Treatment Plants (WWTPs) with respect to nutrient removal according to the EU standards. Various WWTP examples were given from Turkey and abroad. Environmental legislations and regulations for preventing water pollution were also discussed. Sustainable solutions were put forward for water supply and wastewater management.

Moderator:	Ahmet DEMİR , Istanbul Water and Sewerage Administration (ISKI)
Keynote Speaker:	Karl Heinz ROSENWINKEL , Leibniz Universität Hannover, Germany <i>"Municipal Wastewater Treatment in Europe Technologies, Dimensioning and Experiences in Full Scale"</i>
Presenters/ Panellists:	Bilsen BELER BAYKAL , Istanbul Technical University (ITU), Turkey <i>"Sustainable and Holistic Management of Domestic Water Supply and Domestic Wastewater: Evaluation of Domestic Wastewater as a Source through Stream Segregation"</i> Güçlü İNSEL , Istanbul Technical University (ITU), Turkey <i>"Automation and Process Control in Wastewater Treatment Plants for the Minimization of Operational Costs"</i> İsmail KOYUNCU , Istanbul Technical University (ITU), Turkey <i>"Membrane Technologies for Wastewater Treatment and Reuse: Recent Developments"</i>

Session 5.3. Urban Wastewater Management I

This session covered the challenges and solutions related to urban wastewater management. Developing countries are deprived of treatment plants and know-how. 2.7 billion people around the world lack sanitation, treatment and sewerage systems. Implementations of different industrial treatment plants were presented and some financial models were given during the session. The importance of the coordination between private sector, public sector and universities was highlighted for increasing the implementation of build-operate-transfer (BOT) models in urban wastewater treatment plants. The significance of transferring inner-city industries to organized industrial zones, utilizing new technology pollution prevention controls and continuous maintenance of sewerage systems and wastewater treatment plants were also highlighted.

Moderator:	İsmail TOROZ , Istanbul Technical University (ITU), Turkey
Keynote Speaker:	Ahmet SAMSUNLU , Istanbul Technical University (ITU), Turkey <i>"Urban Infrastructural Problems and Istanbul"</i>
Presenters/ Panellists:	Yüksel ACAR , Istanbul Water and Sewerage Administration (ISKI) <i>"Sectoral and Industrial Wastewater View of Istanbul"</i> Erdem GÖRGÜN , Istanbul Technical University (ITU), Turkey <i>"Modern Financing Methods for Common Industrial Wastewater Treatment Plants – Case of Dilovası Organized Industrial Zone"</i>

Session 5.4. Urban Wastewater Management II

This session discussed the administration of wastewater applications and finance resources, reuse of treated water and effective use of energy within the scope of wastewater policy and management. The “Energy Saving with Deammonification for Nitrogen Removal” model was presented as an example of improving the total energy balance. The consequences of floods caused by mismanagement of urban water were discussed and some illustrations were given. Preparation of risk maps was identified as crucial for reducing flood losses and precautions were explained with sample risk maps.

Moderator:	Cumali KINACI , Ministry of Environment and Forestry of Turkey
Keynote Speaker:	Karl Heinz ROSENWINKEL , Leibniz Universität Hannover, Germany <i>“Energy Saving with Deammonification - Process for Nitrogen Removal - Full Scale Experiences”</i>
Presenters/ Panellists:	Necati AĞIRALIÖĞLU , Istanbul Technical University (ITU), Turkey <i>“Flood Management in Istanbul”</i> Recep AKDENİZ , Ministry of Environment and Forestry of Turkey <i>“Urban Wastewater Management and Policies”</i>

Session 5.5. Urban Domestic Water Management I

The focus of this session was urban domestic water management that aims at the efficient use of existing water resources. The panellists underlined the impacts of drought on urban water supply-demand management and examined the impacts of climate change, fast population growth, infrastructure problems and misuse of water resources on urban domestic water. Case studies were given from arid and semi-arid areas. The technology of SCADA (Supervisory Control and Data Acquisition) and its benefits for reducing water losses were explained. The panellists supported the purpose of constituting a convenient communication, coordination and control system and establishing an organization among the public and private sectors in order to protect, evaluate and improve water resources for all living creatures to live in a sustainable, healthy and balanced environment.

Moderator:	Hidayet ATASOY , Bank of Provinces, Turkey
Keynote Speaker:	Pierre LACONTE , Foundation for the Urban Environment (FFUE), Belgium <i>“Managing Water Resources in Urbanized Areas – Experiences of Consequences to Istanbul Water Challenges”</i>
Presenters/ Panellists:	Canan KARAKAŞ ULUSOY , Bank of Provinces, Turkey <i>“The Problem of the Water Management in the Metropolitan Areas”</i> Habib MUHAMMETOĞLU , Akdeniz University, Turkey <i>“Management of Water Losses from Water Distribution Systems Using SCADA, DMA, GIS and Modelling: Case Study of Antalya City- Turkey”</i> Alireza SALAMAT , UNESCO Regional Centre on Urban Water Management, Iran <i>“Impact of Droughts on Urban Water Supply; Introduction to International Drought Initiative”</i>



Pierre LACONTE speaking in Session 5.5. Urban Domestic Water Management I

Session 5.6. Urban Domestic Water Management II

This session emphasized the importance of urban domestic water management with examples from across the world. Most notable among these was about the co-management of Palestine's water resources with Israel. Palestine's challenges of high population, pollution, water shortage, drought and inequal allocation of transboundary water resources were discussed. Utilization of alternative water resources were also tackled. Providing quality water resources through moving ports and industrial zones outside the cities and rediscovering the socio-economic, cultural and environmental value of waterfronts through regeneration projects were other remarkable issues discussed during the session.

Moderator:	Bilsen BELER BAYKAL , Istanbul Technical University (ITU), Turkey
Keynote Speaker:	Marta MORETTI , International Centre Cities on Water, Italy <i>"Valorisation of Waterfronts for Sustainable Development in Cities on Water"</i>
Presenters/ Panellists:	Necdet ALPASLAN , Dokuz Eylül University, Turkey <i>"Alternative Water Resources for Urban Uses"</i> Osman FINDIK , Istanbul Water and Sewerage Administration (ISKİ) <i>"Importance of SCADA System in Water Management in Istanbul"</i> Hazem KITTANI , Palestinian Water Authority, Palestinian National Authority <i>"Water in the West Bank: Quantity and Quality in Palestine"</i>

Theme 5 Wrap-Up Session

Moderator:	Ahmet SAMSUNLU , Istanbul Technical University (ITU), Turkey
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Theme 6 – Water Resources Management and Water Culture

Today, as water scarcity increasingly becomes a common problem, intelligent management of water resources has become indispensable. In this theme, IWRM and its applications were examined by giving examples of new approaches within the context of the European Water Framework Directive. The historic/ancient water structures that are parts of the water culture, which are the yield of the relationship between water and humans throughout the history, were scrutinized by considering how these structures should be evaluated in terms of modern technologies. Management of geothermal energy, the current state of geothermal energy in the world and in Turkey and thermal tourism were other significant discussion subjects of the theme.

Session 6.1. IWRM - Surface Water Resources

In the light of the key concepts of sustainability, holistic management approach, IWRM and protection, this session highlighted the challenges, developments and positive-negative factors affecting water resources management. Within the scope of the EU Water Framework Directive, the master plan of the French Integrated Water Resources was presented as an example. Additionally, significance of basins and their protection from the point of Integrated Water Resources Management were discussed. The message of preventing water from being commercialized was given with the principle “water for life” instead of “water for development”.

Moderator:	Nilgün HARMANCIOĞLU , Dokuz Eylül University, Turkey <i>“Water Resources Management: Where are We? Where are We Headed?”</i>
Keynote Speaker:	Patrick LAVARDE , The French National Agency for Water and Environment (ONEMA) <i>“Towards IWRM: The Example of the Implementation of EU Water Framework Directive”</i>
Presenters/ Panellists:	İbrahim GÜRER , Gazi University, Turkey & Nurunnisa USUL , Middle East Technical University (METU), Turkey <i>“Difficulties Encountered in the Use of New Technologies for Integrated Water Resources Management”</i> Adem ŞANLISOY , Istanbul Water and Sewerage Administration (ISKİ) <i>“Protection Strategies for Istanbul Water Basins”</i> Şahnaz TİĞREK , Middle East Technical University (METU), Turkey, on behalf of the Chamber of Civil Engineers <i>“Water for Development or for Life?”</i>

Session 6.2. IWRM - Groundwater Resources

This session emphasized that groundwater should not be treated as an unlimited resource. Potential use and management of groundwater resources in Anatolia and problems related to groundwater resources management were stated. The EU Water Framework Directive, which is the basic law of EU on water and protection of continental waters, transition waters, coastal waters and groundwaters with the purpose of maintaining a good water status, was mentioned. Case studies were presented and their results were discussed.

Moderator:	Hasan YAZICIGİL , Middle East Technical University (METU), Turkey
Keynote Speaker:	Hasan YAZICIGİL , Middle East Technical University (METU), Turkey "Sustainable Management of Groundwater Resources"
Presenters/ Panellists:	İhsan BOZ & Özlem YİĞİTLER , General Directorate of State Hydraulic Works (DSİ) "An Example of EU Water Framework Directive Implementation to Groundwater: Büyük Menderes River Basin" Mehmet EKMEKÇİ , Hacettepe University, Turkey "Current Problems and Future Challenges in Water Resources Management: Gaps in Preparedness in Turkey" Nurettin PELEN & Ahmet SARGIN , General Directorate of State Hydraulic Works (DSİ) "Groundwater Management in Turkey" Levent TEZCAN , Hacettepe University, Turkey "Integrated Water Resources Management Culture in Turkey: Gaps & Mistakes"



Panellists of Session 6.2. IWRM - Groundwater Resources

Session 6.3. Water and Culture I

Water is the source of human spirituality and culture from antiquity to the present. It's a primal element of human traditions. This session discussed the relationship between water and human culture. Historical development of hydraulic and semi-hydraulic historic/ancient water structures were discussed. Examples were given from across the world and Turkey. Specialists drew attention to the use of modern technologies in improving and reutilizing historic water structures. Potential measures to protect these water structures for future generations were also pointed out.

Moderator:	N. Orhan BAYKAN , Pamukkale University, Turkey
Keynote Speaker:	Ali Ünal ŞORMAN , Middle East Technical University (METU), Turkey <i>"Ancient Water Works in Turkey"</i>
Presenters/ Panellists:	N. Orhan BAYKAN , Pamukkale University, Turkey <i>"Hydraulic and Semi-hydraulic Ancient/Historical Structures in Turkey along Several Millennia"</i> Dalila JABUČAR , Hydro-Engineering Institute of Civil Engineering Faculty Sarajevo, Bosnia and Herzegovina <i>"Sarajevo Water Supply System through City Development"</i> Gofur N. TOLMBOK , Xinjiang Karez Research Society <i>"An Outline of Xinjiang's Karez in China"</i>

Session 6.4. Water and Culture II

This session discussed the history of "water culture" and development of water structures from the Roman and Ottoman periods. Applications of restoration and protection of historic water structures dating back from the Ottoman period were also presented.

Moderator:	Said ÖZTÜRK , Yıldız Technical University, Turkey
Keynote Speaker:	Said ÖZTÜRK , Yıldız Technical University, Turkey <i>"Protection of Water Resources and Aqueducts during Ottoman Period in Istanbul"</i>
Presenters/ Panellists:	Mehmet BİLDİRİCİ , Researcher, Turkey <i>"Wells are in the Use of Mankind Since 8000 Years"</i> Galip BÜYÜKYILDIRIM , Researcher, Turkey <i>"Waters and Historical Water Structures in Antalya Region"</i> Nur URFALIOĞLU , Yıldız Technical University, Turkey <i>"The Water Culture in Istanbul: The Water Supply Buildings of Istanbul"</i>

Session 6.5. Geothermal Energy and Water Culture I

This session addressed geothermal energy as a new energy resource and discussed its uses for domestic purposes, greenhouse heating, as well as in thermal tourism. Examples were given from countries that utilize this kind of energy most. The projects of the Bank of Provinces of Turkey, which has been making legal efforts related with geothermal energy, and benefits of these projects were discussed. The current

circumstance of energy use in Turkey and around the world was evaluated and recommendations were presented in order to enhance the current status.

Moderator:	Şakir ŞİMŞEK , Hacettepe University, Turkey
Keynote Speaker:	Şakir ŞİMŞEK , Hacettepe University, Turkey <i>"Exploration and Utilization Developments on Geothermal Energy in the World and Turkey"</i>
Presenters/ Panellists:	Kemal AKPINAR , Bank of Provinces, Turkey <i>"Geothermal Energy and Provinces Bank Applications"</i> Orhan MERTOĞLU , Turkish Geothermal Association <i>"Geothermal Applications in Turkey"</i> Ahmet YILDIZ , Afyon Kocatepe University, Turkey <i>"The Future of Geothermal Energy in Afyonkarahisar"</i>

Session 6.6. Geothermal Energy and Water Culture II

In this session, the formation and structure of the geothermal and mineral waters were discussed and examples were given from around the world where mineral waters are extracted. The potential and use of mineral waters and thermal springs in Turkey were compared to those in other countries and their health benefits were explained. Studies made with relevant ministries were presented by pointing out the development of "thermal tourism" income by years in Turkey.

Moderator:	Erdoğan YÜZER , Istanbul Technical University (ITU), Turkey
Keynote Speaker:	Zeki KARAGÜLLE , Istanbul University, Turkey <i>"Healing with Water; Tradition or Science?"</i>
Presenters/ Panellists:	Toros ÖZBEK , T.R. Union of Municipalities with Geothermal Resources <i>"Evaluation of Integrated Geothermal Resources in Health and Thermal Tourism"</i> Fatma ŞENSOY , Science and Art Foundation, Turkey <i>"Thermal Culture Travelogues Evliya Çelebi"</i> Nizamettin ŞENTÜRK , Association of Turkey Mineral Waters Manufacturers <i>"Mineral Waters in Turkey"</i> Erdoğan YÜZER , Istanbul Technical University (ITU), Turkey <i>"Water Culture"</i>

Theme 6 Wrap-Up Session

Moderator:	İbrahim GÜRER , Gazi University, Turkey
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SIDE EVENTS / SPECIAL EVENTS

Side events were unique opportunities for stakeholders to draw attention to their concerns and the issues they prioritized in the management of water resources

During the 2nd Istanbul International Water Forum, 17 distinct side events and special events on diverse issues were organized by international institutions, state authorities and non-governmental organizations. The side events were unique opportunities for stakeholders to draw attention to their concerns and the issues they prioritized in the management of water resources. Event organizers also shared their visions on water issues and their experiences in water-related projects. In these interactive meetings, users, officials, entrepreneurs and civil society representatives presented their solutions on water challenges and discussed ongoing projects and policies. Exhibitions, workshops and documentary films also shed light on different roles of water in our lives.

Creation of a New Habitat for the Bats of İnboğazi Cave Due to Havran Dam Construction

Convener: Investigation and Planning Department of the General Directorate of State Hydraulic Works (DSI)

During the construction of the Havran Dam in Balıkesir, it was noticed that the dam would flood a cave that is home to more than eighteen thousand bats. After three years of investigation and studies, the construction of a new bat cave started in 2008. This project of creating an artificial habitat for bats has been a case study in terms of its size and the reasons urging its construction. In this side event, experts from the project explained why there has been a need for such a grand project and the importance of the bat population for the ecologic life in the region. Experts also shared the details of the delicate operations to create the same ecosystem of the old cave.

Effects of Global Climate Change on Water Sources, Its Consequent Socio-Economic Burden on Women and Regional Solution Alternatives

Convener: Water and Women Platform of Turkey

Women's productive and reproductive role makes them the largest group of consumers globally. This group therefore has a major impact on water consumption habits and consequently, on management of resources. In the process of building a water-responsible society, women are indispensable. During this side event, the importance of gender equity in water politics from a bioethical perspective, global warming and its effects on women were discussed. The necessary steps to promote women's equal participation in decision making and implementation processes were also pointed out.

How to Prepare for the Next World Water Forum?

Convener: World Water Council (WWC)

The preparation process of the 6th World Water Forum, which will take place in Marseille between 12-17 March 2012 was explained in detail. The speakers consisted of members from various processes of the organizational team of the 6th World Water Forum. Objectives and framework of the Forum and the action plans to reach concrete solutions were discussed. It was emphasized that the Forum will be realized with the cooperation of all stakeholders, including NGO's, governments, parliamentarians and ministers.



Members of the 6th World Water Forum International Forum Committee

Innovation and New Technologies

Convener: Private entrepreneurs (Akifer, Adell Mixer & Valve Production Inc.Co., i2o Water, Global Water Solutions Ind.Trade Inc., Scandinavian Water Supply, Mir Holding)

In this side event, new technologies developed by private companies were presented to water users. Entrepreneurs talked about their new innovative ideas and solutions to problems in water management. This occasion provided a useful platform for companies to see the findings of their counterparts, as well as to gather feedbacks from their potential customers. Furthermore, entrepreneurs accounted for their research and development activities and joint projects with state institutions.

Istanbul Water Consensus and Water Applications Special Event

Convener: Istanbul Water and Sewerage Administration (ISKI)

Hitherto more than 800 local authorities from all over the world expressed their willingness to overcome water challenges and pledged their commitments for the implementation of set targets by signing the Istanbul Water Consensus. This side event, informed about the targets identified in Istanbul and the projects and policies to fulfill them. Furthermore, water and sewerage administrations of Turkish metropolitan cities accounted for technologies and strategies used in their maintenance and operation activities in detail.



“Matchmaking” e-tools: Bringing Water Utilities from South Eastern Europe Together

Convener: The Global Water Operators’ Partnerships Alliance (GWOPA)/ UN-HABITAT

GWOPA is hosted by UN-HABITAT and works to help water operators help one another to improve their collective capacity to provide access to water and sanitation services for all. After a brief introduction of the program, GWOPA’s electronic networking tools were introduced. The website of the organization (www.gwopa.org) provides a useful platform for water operators to share their experiences and knowledge and be inspired by others. Case studies from different regions of the world were also presented.

Operation and Maintenance Practices in Agricultural Water Management

Convener: General Directorate of State Hydraulic Works (DSI) Operation and Maintenance Department

Operation and maintenance works are essential for an effective and efficient irrigation system. Experts from the General Directorate of State Hydraulic Works (DSI) shared information and data about the current situation in public irrigation and ongoing projects. Common problems faced in agricultural water management, risk and disaster management and implementation of new irrigation technologies were the main discussion topics.

Productivity in Water Use

Convener: National Productivity Centre, Turkey

This side event focused on the efficient use of water in different areas. Legal, technical and economic aspects of efficient water use and its importance for sustainable agriculture and environment were among the main topics of the discussion. Experts of National Productivity Centre emphasized the connection between the productivity in water use and socio-economic development. Guest speakers from Poland accounted for Polish private sector experience in water management and gave the details of the Clean Business Program funded by EU.

Public- Private Partnership (PPP) Model and the Management of Water Resources: Experiences and Suggestions

Convener: Actecon Consultancy

The session mainly handled the structure and types of PPP model irrigation experiences in developing countries and the ATO (Ambito Territoriale Ottimale - Optimal Territorial Ambit - an aggregation of municipalities) model in Italy as a developed country. Information about Kayseri Integrated Health Campus project, the first healthcare PPP project of Turkey, was given to demonstrate the road map of a PPP project. The panellists, relying on their experience from Kayseri Tender Project, gave recommendations for future plans in agricultural water management. Also, the Italian experts discussed their experiences in national legislation on water and public utilities, financing and the bankability aspects of projects with the case study of “Irisacqua”.

Role of Biotic Regulation of Continental Water Stock

Convener: Ecological Movement “BIOM”

In this Kyrgyz-Turkish joint side event, the role of biotic regulation in the global water and the role of cultural and law regulators in forest management were the main discussion points. Specialists of Kyrgyz non-governmental organization “BIOM” accounted for their projects and campaigns on the conservation of forests and wetlands in Kyrgyzstan. Turkish officials from the Ministry of Environment and Forestry discussed their experiences and activities in afforestation works in Turkey.

Turkish - Dutch Cooperation on Water, Agriculture and Innovation

Convener: Dutch Ministry for Economic Affairs, Agriculture and Innovation

Dutch and Turkish specialists proposed solutions for problems in water allocation, sustainable water management and wastewater treatment and discussed opportunities for innovation in agriculture and land consolidation. Specialists treated social and financial aspects of water management and introduced the joint projects of Dutch Government Agency for Land and Water Management (DLG) with Turkish Ministry of Agriculture and Rural Affairs and Ministry of Environment and Forestry.



Panellists of the side event “Turkish - Dutch Cooperation on Water, Agriculture and Innovation”

UN-HABITAT WOP-SEE Steering Committee Meeting

Convener: UN-HABITAT Water Operators’ Partnerships in South East Europe (WOP-SEE)

Closed meeting.

Water as an Engine for Growth: Case Studies Examining the Links between Water and Green Growth

Convener: Korean Government (MLTM, PCGG, K-Water) and World Water Council (WWC)

Green growth is about fostering economic growth and development, while ensuring that the quality and quantity of natural assets can continue to provide the environmental services on which our well-being relies. It is also about fostering investment, competition and innovation, which will underpin sustained growth and give rise to new economic opportunities. In this side event, case studies on water and green growth from Africa, Latin America and Asia were presented. Also, activities of East Asian Climate Partnership, contribution of hydropower and models that both encourage growth and investment in the natural capital to support local economies were discussed.



Organizers and panellists of the side event "Water as an Engine for Growth"

Water Framework Directive, Implementations in EU and Turkey

Convener: Ministry of Environment and Forestry of Turkey

Implementation of the Water Framework Directive (WFD), a systematic guide for the introduction of integrated water management is a big step for Turkey to gain a full membership of the European Union. This side event addressed the WFD implementations and their current status in EU member states and Turkey. Furthermore, Directorate General for Environmental Management accounted for the preparation of the River Basin Management Plans and works undertaken under its supervision with the involvement of related institutions, agencies and enterprises. Water quality, monitoring, participation of the stakeholders and capacity building were among the topics discussed and case studies from Rhine and Büyük Menderes were compared.

Water Issues and Case Studies in Turkey Special Event

Convener: General Directorate of State Hydraulic Works (DSI)

In this side event, officials of State Hydraulic Works shared valuable technical and financial information about Istanbul Great Drinking Water Supply Project and TRNC (Turkish Republic of Northern Cyprus) Water Supply Project. Flood prevention, erosion control, and new developments in irrigation systems were the main topics addressed in this session. Furthermore officials accounted for the investments made and services delivered by the State Hydraulic Works in Africa.

Water-Related Adaptation in Seyhan River Basin under Changing Climate

Convener: UN Joint Programme

Main philosophy, phases and studies of the Community Based Grants Programme in the Seyhan River Basin implemented in the context of the UN Joint Programme on Enhancing the Capacity of Turkey to Adapt to Climate Change and examples from grant projects constituted the focus of this side event. Climate scenarios, impacts of climate change on socio-economic structure, society and species, water resources and agricultural production were among the elaborated topics.

Women and Water Policies

Convener: Soroptimist International (SI) of Turkey & Turkish Business and Professional Women Federation

Women are the most affected from water poverty. Although they play a central role in the supply, management and safeguarding of water, they are not equally involved in decision-making. In this side event, panellists pointed out the vital importance of women's inclusion and the accountability and transparency of the water management process. Institutionalization was underscored as essential in the facilitation of effective water management and equality in gender representation.



Panellists of the side event "Women and Water Policies"

ARTISTIC and CULTURAL ACTIVITIES

The 2nd Istanbul International Water Forum also featured concerts, stage performances and art exhibitions, which demonstrated the importance of water in our lives

The stage of the 2nd Istanbul International Water Forum not only welcomed water experts, but also arts and artists that combined water with music, dance, handcrafts, paintings, photographs and other artistic expressions, all of which demonstrated the importance of water in our lives from a creative perspective.

Concerts

The Opening Ceremony of the Forum started with the instrumental performance of the Varol Cultural Centre founded by the Turkish Classical Music Choir state artist and composer Necdet VAROL. The repertoire consisted of instrumental *semais*, overtures and *longas*.



Performers of the Varol Cultural Centre at the Opening Ceremony

Directed by Chief Aksu YAŞAR, the 55 artists of the group Istanbul Live Production staged an elaborated musical collage performance on the evening of the opening day of the Forum. The show was a modern interpretation of traditional Turkish performing arts on the theme of water and presented Turkey's cultural mosaic of different religions and communities, their relationship to water and the beauty they reflect when their differences are brought together.

On the evening of the second day of the Forum, the Dostane group that is composed of state artists of the Ministry of Cultural Affairs staged a performance of traditional Turkish folk songs and dances.



Istanbul Live Production

Exhibitions

The exhibitions organized throughout the Forum venue presented various works of art on the theme of water performed by artists that have won many first prizes and have represented Turkey at international platforms. Exhibitions consisted of water-themed miniature paintings, mother-of-pearl works, calligraphy, *ebru* (marbling) and *tezhip* (illumination) artifacts, oil paintings, 3-D photographs and antiques. The list of exhibition artists and the themes of their exhibitions are given below.

Eda Funda ÖZKAN *Ebru* and *Tezhip* Exhibition

Award-winning artist presented her *ebru* and *tezhip* works and performed *ebru* paintings on-site throughout the Forum which she donated to the Forum participants.

From the Source to the Demijohn

Exhibitor: Adell Mixer & Valve Production Inc.Co.

The exhibition consisted of selected artifacts of the extensive “Water of Life” collection of Adell Mixer & Valve Production Inc.Co., including demijohns, demijohn seals and caps belonging to the Ottoman and the early years of the Republic, silver, crystal and paper glasses, water stones, water piggins, photos and postcards of demijohns, demijohn labels of Istanbul’s major water vendors, stamps, stock certificates, etc. The purpose of this exhibition was to promote Istanbul’s famous healing waters and water culture and inform about the water-related items used in everyday life.

İsmet Ender ENÖN 3-D Photo Exhibition and Slide Show

Various 3-D photographs and slide shows that captured the beauties of water around Istanbul, Turkey and different regions of the world.

Merve EROĞLU Oil Painting Exhibition

Various oil paintings and flower-themed *ebru* works of Merve EROĞLU.

Miniature Exhibition

This exhibition included examples of traditional Turkish arts and crafts of *tezhip*, *ebru*, calligraphy and miniature created by the artists of Istanbul Embroidery House.



Özcan ÖZCAN performing the art of *ebru*

Özcan ÖZCAN Miniature Exhibition

Turkey’s foremost miniature artist Özcan ÖZCAN, who has represented Turkey abroad many times, presented miniatures of fountains, water ways and bridges, maps and other water themed artifacts.

Wetlands Photograph Exhibition

Exhibitor: Photographic Arts Society (FSK)

This exhibition presented wetland-themed photographs taken by the artists of the Photographic Arts Society (FSK), under the leadership of photograph artists Ahmet BOZKURT and Mehmet ÇALLI.

What If We Run Out of Water?

Exhibitor: Soroptimist International Turkey (International Business and Professional Women Association)

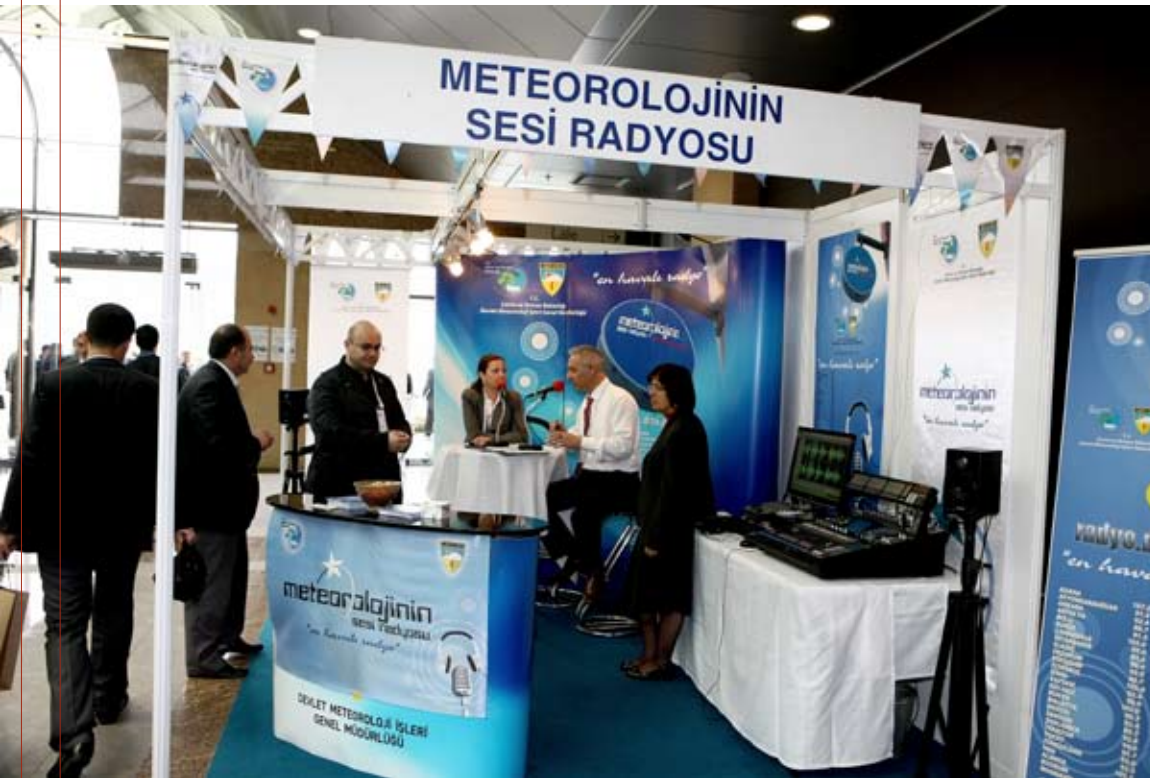
This exhibition displayed photos that praised the importance of water for life and using the power of art, it drew attention to the approaching threat of drought that is likely to happen as a result of the unconscious consumption of water.

WATER EXPO

The Water Expo was opened on the first day of the Forum by Prof. Veysel EROĞLU, Minister of Forestry and Water Works of Turkey. The Expo was organized within the Forum venue inside the foyers that linked the session blocks and covered a 2000 sqm area including the stands of 12 institutions and 32 companies from Turkey and abroad. Bringing together key decision-makers from various institutions and companies from around the world, the Water Expo provided a platform for the exhibitors with new business opportunities, access to new customers and the chance to forge new links. The exhibitors were given the opportunity to present their services, products, activities and studies in a convivial atmosphere.

The Turkish State Meteorological Service radio that broadcasted among the stands created a pleasant ambiance and incorporated the views of Forum participants on the air. The 5th World Water Forum Secretariat also had a stand at the Water Expo to distribute its publications.

The Water Expo included 12 institutions and 31 companies from Turkey and abroad



The Turkish State Meteorological Service radio broadcasting at the Water Expo

The institutions and companies that participated in the Water Expo are listed below.

5th WORLD WATER FORUM
ISTANBUL 2009



5th World Water Forum
Secretariat



Agbar



Ahmet Aydeniz Construction



Ak-Izo Isolation
Systems Inc.

Alsim Alarko-Rosneftegazstroy
Joint Venture



Andritz Hydro GmbH

AYKON Aykon



Bank of Provinces of Turkey,
Strategy Development Department



BM Holding



Ceylan Construction and Trade
Co. Inc.



ECE TUR Tourism Construction
Trade and Store Management Co.
Inc.



ERCİYAS

Erciyas Steel Pipe Co.



Erg Construction



Eser Project and Engineering Co.
Inc.



Minister Veyisel EROGLU visiting the stands at the Water Expo



Fernas Construction Company Inc.



General Directorate of Forestry of Turkey



General Directorate of State Meteorology Affairs of Turkey



General Directorate of State Hydraulic Works (DSİ)



Göçay Construction



Hidro Dizayn Engineering Consultancy Construction and Trade Inc.



i2o Water



İlci Construction



İMA Engineering Construction and Trade Ltd. Co.



Istanbul Metropolitan Municipality



Istanbul Water and Sewerage Administration



Konya Water and Sewerage Administration (KOSKİ)



Limak Holding



Mapa Construction and Trade Inc.



Ministry of Environment and Forestry of Turkey



Ministry of Environment and Forestry of Turkey Department of Foreign Relations



NTF Construction



Özaltın Holding Inc.



Özkar Construction and Trade Coop.



Piomak Automation Company Inc.



The International Journal on Hydropower and Dams



Samsun Machinery Industry Co. Inc.



Special Environmental Protection Agency



Subor Pipe Production Inc.



Usaş Construction



Ümran Steel Pipe



Ünal Group



Water Foundation, Turkey



Women and Water Platform

MEDIA and COMMUNICATIONS

Over 4,500 participants attended the 2nd Istanbul International Water Forum out of which around 1,000 participants were from 100 countries worldwide

Over 4,500 participants attended the 2nd Istanbul International Water Forum, out of which around 1,000 participants were from 100 countries worldwide. There were 150 speakers and panellists consisting of ministers, mayors and water management specialists from around the world. A total number of 106 journalists from national and international press were present at the Forum.

The Forum was communicated to greater audiences through public service announcements (PSAs), also known as public service ads, that were prepared to inform both national and international media in order to promote public interest and raise awareness on water-related issues. The press releases were another main component of the Forum's communication tools, which aimed to inform the media about the Forum itself and its significance for the world and supplied information containing the basics needed to develop a news story to the reporters. More than 4 daily press releases were distributed throughout the Forum week to over a great many of journalists worldwide.

PSAs mentioning the 2nd Istanbul International Water Forum were broadcasted in prominent television networks in Turkey such as CNNTurk, Bloomberg HT, NTV, Habertürk, TRT Haber and also in some international television networks like Al-Hurra TV and Al-Forat TV. TGRT Haber, one of the largest news channels in Turkey, arranged an interview with Prof. Ahmet M. SAATÇI, Forum Steering Committee Co-Chair and Dr. Ipek ERZİ, Forum Steering Committee member. Moreover, Bloomberg HT, Atv, TRT Haber and NTV broadcasted an interview with Loic FAUCHON, President of the World Water Council (WWC). Prof. Veysel EROĞLU, Minister of Forestry and Water Works of Turkey, was also interviewed on NTV. Besides, Akif ÖZKALDI, Director General of the General Directorate of State Hydraulic Works (DSİ) and Jean François DONZIER, General Manager



Prof. Ahmet M. SAATÇI giving an interview to NTV



Prof. Veysel EROĞLU, Minister of Forestry and Water Works of Turkey, talking to the press after the Opening Ceremony

of the International Office for Water gave exclusive interviews. The 2nd Istanbul International Water Forum also featured in the “Gelecek Gündemde” (Future Agenda) programme on CNNTurk - a series of films highlighting solutions to some of the key global challenges for 2020.

The official 2nd Istanbul International Water Forum website, www.iusf.org.tr, served as the main source of information about the organization and processes of the Forum, as well as logistical information and the Forum programme. It

was also the main platform for online registration and submission of contributions to the Forum’s thematic sessions. The Forum website had 27,089 visits in total with an average of 5,36 pages/visit and 145,068 pageviews between January and August 2011.



A snapshot of the Forum website

TECHNICAL TOURS and FIELD VISITS

Technical tours consisted of visits to water treatment plants and historical water structures around Istanbul

On the last day of the 2nd Istanbul International Water Forum, free technical tours were arranged for Forum participants with the collaboration of Istanbul Water and Sewerage Administration (ISKI).

Technical tours consisted of visits to water treatment plants and historical water structures around Istanbul.

Forum participants found the opportunity to examine good practices on-site and gain a view over the technologies that are being applied at the water treatment plants. One of the treatment plants that was visited was the Ataköy Advanced Biological Wastewater Treatment Plant, which is the biggest installed advanced biological plant of Istanbul that purifies a wastewater

refusal of 600,000 m³/day. The other was the İkitelli Drinking Water Treatment Plant with an average daily capacity of 420,000 m³ of water.



İkitelli Drinking Water Treatment Plant



Ataköy Advanced Biological Wastewater Treatment Plant

The cultural trip consisted of visits to the historical water structures around Istanbul that trace back from Roman and Ottoman times and many of which can still be used today.

THE FORUM SECRETARIAT

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Irmak I. BENLİ

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Side Events

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Abbreviations

AFIAL - Association of the Friends of Ibrahim Abd El Al	IMM - Istanbul Metropolitan Municipality
ATO - Optimal Territorial Ambit	INWRDAM - Inter-Islamic Network on Water Resources Development and Management
BSEC - Organization of the Black Sea Economic Cooperation	ISKI - Istanbul Water and Sewerage Administration
BOT - Build-operate-transfer	ITU - Istanbul Technical University
DLG - Dutch Government Agency for Land and Water Management	IWRM - Integrated Water Resources Management
DMI - Turkish State Meteorological Service	K-Water - Korea Water Resources Corporation
DPPI SEE - Disaster Prevention and Preparedness Initiative for South Eastern Europe	KWF - Korea Water Forum
DSI - General Directorate of State Hydraulic Works	METU - Middle East Technical University
EIA - Environmental Impact Assessment	MLTM - The Ministry of Land, Transport and Maritime Affairs of the Republic of Korea
EMWIS - Euro-Mediterranean Information System on Know-How in the Water Sector	NGO - Non-governmental Organization
EU - European Union	OIC - Organization of the Islamic Conference
FAO - Food and Agriculture Organization of the United Nations	ONEMA - The French National Agency for Water and Environment
FFUE - Foundation for the Urban Environment	PCGG - The Presidential Committee on Green Growth, Korea
FSK - Photographic Arts Society	PERSGA - The Regional Organization for the Conservation of the Environment of the Red Sea and Gulf of Aden
GEF - Global Environment Facility	PIM - Participatory Irrigation Management
GIZ - German Technical Cooperation	PPP - Public-private partnership
GWOPA - Global Water Operators' Partnerships Alliance	PSA - Public Service Announcement
GWP - Global Water Partnership	RAED - Arab Network for the Environment and Development
GWP CEE - Global Water Partnership Central and Eastern Europe	RFM - Regional Focus Meeting
HEPP - Hydroelectric Power Plant	RDI - Regulated Deficit Irrigation
HESIAD - Hydroelectricity Plants Industrial Businessmen Association	SCADA - Supervisory Control and Data Acquisition
HFA - Hyogo Framework for Action	SI - Soroptimist International
HLP - High Level Panel	SUBIRDER - Irrigation Union Association of Turkey
ICOLD - International Commission on Large Dams	TIKA - Turkish International Cooperation and Development Agency
ICPDR - International Commission for the Protection of the Danube River	TNC - The Nature Conservancy
ICWC-SIC - Interstate Commission for Water Coordination - Scientific Information Centre	TRNC - Turkish Republic of Northern Cyprus
IHA - International Hydropower Association	TUBITAK-MRC - The Scientific and Technological Research Council of Turkey - Marmara Research Centre

TURSEB - Turkish Hydropower Association
UNDP - United Nations Development Programme
UNEP - United Nations Environment Programme
UNEP/ROWA - United Nations Environment Programme Regional Office for West Asia
UNESCO - United Nations Educational, Scientific and Cultural Organization
UNESCO-IHE - United Nations Educational, Scientific and Cultural Organization-International Institute for Hydraulic and Environmental Engineering
UN-HABITAT - The United Nations Human Settlements Programme

UN-HABITAT WOP SEE - The United Nations Human Settlements Programme Water Operators' Partnerships in South East Europe
UNSGAB - UN Secretary General's Advisory Board on Water and Sanitation
USACE - United States Army Corps of Engineers
WFD - Water Framework Directive
WUA - Water User Association
WWC - World Water Council
WWF - World Wildlife Fund
WWTP - Wastewater Treatment Plant

The Logo of the Istanbul International Water Forum



The logo of the Istanbul International Water Forum is comprised of three water drops that combine and form a tulip that is recognized as a symbol of Istanbul. The water drops of different sizes and colours represent the main sources of freshwater on Earth. The two large drops stand for groundwater and the water in glaciers and icecaps, whereas the smallest droplet that crowns the tulip symbolizes rivers and lakes, where most of the water we use in our everyday lives is contained in, but constitutes only about 0.3 percent of all the freshwater on Earth. The turquoise shades enriches the logo's representation of Turkey. The logo bears the signature of Ms. Gülizar Çilliyüz.

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Last but not least, we would like to thank all Forum participants who contributed towards making the 2nd Istanbul International Water Forum a success.



The Forum Secretariat



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INTERNATIONAL
WATER FORUM

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