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## M Message from the President

Over the years, one of the main objectives of the World Water Congresses of the International Water Resources Association (IWRA) has been to provide a platform for open discussions and debates between scientists, practitioners and policy-makers from developed and developing countries who are interested in the advancement and application of knowledge to solve the water-related problems of the world.

The IWRA has always promoted the cross-fertilisation of ideas between natural and social sciences that is essential to the formulation of different approaches and processes for efficient and equitable water management. The Association has thus encouraged dialogues, interactions and debates among sectors and disciplines on established paradigms, prevailing wisdoms, and future directions. IWRA has also consistently used all the avenues that are available to it to promote generation, synthesis, dissemination and application of knowledge, including *Water International*, and the World Water Congresses.

The XIII IWRA World Water Congress was organised in Montpellier, 1-4 September. It was very specifically planned to ensure a high level of scientific content with the objective to promote debates on different global views, ideologies, paradigms, practices and solutions on a transdisciplinary and multisectoral basis, with the ultimate goal to find better solutions than those that are currently available. The results were insightful contributions and very rich discussions, from the excellent plenary and special sessions, to the Ven Te Chow special lecture and the individual presentations, where the common denominators were the innovative ideas, open mind-sets, and free and frank discussions and debates between participants.

On behalf of the Association, I would like to acknowledge once more the extraordinary effort of Dr. Pierre Chevallier, Director Languedoc, Research Institute for Water and Environment; Dr. Bernard Pouyau, President of the Association VERSeau Développement; and Dr. Eric



Servat, Director of Hydrosociences of the Montpellier Laboratory, as well as all the other members of the Team at Montpellier, for having made this Congress a reality. We express our most sincere appreciation to Dr. Olli Varis, Vice President of the IWRA and Chair of the International Scientific Committee, as well as to the other members of this Committee, for their hard work to ensure a high scientific level for this Congress. Last but not least, our thanks go to all the participants who have contributed to the realisation of the Congress and without whom this event would not have been possible. Our next triennial Congress will be held in Recife, Brazil, in 2011. We shall be looking forward to meeting many of our members there and continue with the dialogue that started in 1972, when our Association was first established.

As Prof. James Nickum, Editor-in-Chief of *Water International*, mentions in his message, the December issue of our journal will include relevant information related to our Association and to the Congress. Do read it and share your views with us.

One of the items you will find in the December issue is the proposals for **amendments to the Constitution and Bylaws**. I invite all our members to go over the proposed modifications and please let us have your opinions on the proposed changes.

I would also like to inform you that we are starting the **election process for the Executive Board for the 2010-2012 period**. The names of the members of the Nominating Committee, all eminent water experts, and the **election calendar** can be seen in this newsletter. They are also being included in our webpage (<http://www.iwrahome.org>) and our journal. For the Association to thrive, we need good and hardworking nominees who will take the Association to a higher level. **We shall be looking forward to receiving nominations of good candidates from all of you.**

The Executive Office will send out the **invoices for the 2009 membership** in November. The membership fees can be paid by using **PayPal through the IWRA webpage, using your credit card, or through bank transfers**. Please renew your membership promptly. As members, you will be able to access all issues of *Water International* through the webpage, including those published by Routledge.

For next year, IWRA is already co-sponsoring important events such as the International Conference on Water Efficiency in Urban Areas 2009 in Würzburg, Germany; the Global Water System: Hydrological Basis and Water Management Practices from Global to Regional scale in Wuhan, China; the International Conference on Water, Environment and Health Sciences: The Challenges of Climate Change, Puebla, Mexico; the 10th International Conference on the Biochemistry of Trace Elements, Chihuahua, Mexico; the International Symposium on Water Resources Management and Hydropower Energy Development in Beijing, China; and the International Workshop on Water Quality Management in Zaragoza, Spain. Visit our webpage, where you will find information on these events.

I would like to stress the importance your views have for our Association. Get in touch with us, either to the Executive Office, or to me personally.

**CECILIA TORTAJADA**  
**President, IWRA**

## **N**ote from the Editor-in-Chief

We are just putting the finishing touches on the December 2008 issue of *Water International*, marking a full year of a successful collaboration with Routledge (Taylor & Francis) in producing a new look that has received wide acclaim. The September issue was issued just in time for display at the XIII World Water Congress in Montpellier. The theme of that issue was “Running Dry,” both literally and figuratively. Literally, we were able to assemble papers on running water regimes in dry areas (karezes in many countries, Oman, Dead Sea wadis, and Iran). Figuratively, we continued the “conversation” of papers on IWRM, many of them triggered in reaction to Asit Biswas’ 2004 call for reexamination of the usefulness of the concept in an increasingly complex but institutionally “dis-integrated” world. Just to keep the pot boiling, we led off with a reaffirmation of his position by Prof. Biswas. We expect this conversation to continue in our pages, and hope it is just one of many on issues of common concern.

The December issue will have many items of interest to IWRA members – in fact, it is being labeled a Special Issue on the IWRA. We have a revised Constitution and Bylaws to consider, as well as a call for nominations for the next Board of Directors (2010-2012). We have also assembled a number of materials from the World Water Congress that indicate some of the new thinking and collaborations that are coming out of the ever-growing awareness of the world’s need to address its water problems, and demonstrating that the IWRA is in there doing its bit. And we haven’t forgotten the articles – this time, they demonstrate the geographical, thematic and disciplinary range of our contributions.

We still have quite a backlog of submissions, and new ones are coming in steadily. We can afford to be quite selective in publishing those items that are likely to be of the greatest interest to our members and the wider readership in furthering the exchange of ideas on water management. At the same time, I hope to be able to increase the proportion of space devoted to other types of professional information, including an annotated listing of recently published books. Any suggestions you may have for further improvement are, as ever, most welcome.

**JAMES E. NICKUM**  
**Editor-in-Chief, Water International and**  
**Chair, Publications Committee**

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## **A**mendments on the Constitution and Bylaws

Water issues constantly evolve in the international community thus demanding a concomitant adjustment of the different water association’s targets. The objectives of the Association established in the current Constitution, written in 1973, are still valid, but there was consensus that they must be updated in accordance with the evolution within the water world that has taken place since that time. Additionally, there is a significant experience gained by the Association during this time period.

The proposal for assessing the objectives as well as invigorating the Association for the fulfillment of its goals, was approved in February 2007 at the Executive Board meeting held in Cairo. The assessment carried by the Task Force appointed to carry out that objective focus primarily on responding to institutional needs taking into account membership proposals.

The proposed amendments seek to improve the Constitution addressing certain gaps that have become apparent over the years.

The Concept Paper prepared by the Task Force addresses the different matters with a brief description in a systematic order. The document was reviewed by the Executive Board meeting held in September 2008 in Montpellier and a final version is now submitted to the members for approval. Following the decision on the revised and updated institutional framework, IWRA will focus on its relevance in the water world, drawing up an institutional strategic policy to maintain a referential and detached position in the water field, also taking into account the proliferation of qualified brotherly institutions.

**LILIAN DEL CASTILLO DE LABORDE**  
**Secretary General, IWRA**

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## **I**nternational Water Resources Association 2009 Elections **Calendar**

According to the Constitutional requirements regarding timing of the elections for IWRA Executive Board, the following is a calendar with a sequence of eight steps of the electoral process, which has been approved by the Board. The official Date of Elections is October 1, 2009.

### **1. October 2008 Issue of IWRA Update**

Announce the Chair of the IWRA Nominations Committee and invite nominations, including self-nominations, from Executive Board members and from any IWRA member in good standing within 90 days. The Chair also invites all Nominating Committee (NC) Members to submit names of potential candidates.

### **2. February 2, 2009**

A list of nominees is completed by the Nominations Committee and submitted for review and approval by the Executive Board. The Board shall complete its deliberations, which may be made by e-mail and by simple majority of those casting votes, within 10 days.

### **3. February 11, 2009**

Using the Board-approved list of candidates, the Executive Director mails or e-mails invitation letters to the nominees in specific categories to confirm their acceptance of the nomination and to ask for an updated biographical note or vita from each nominee.

### **4. Announcement of candidates in WI**

The list of candidates is announced in *Water International* at least 120 days (4 months) before the election date (to be set between **August-November 1, 2009, depending on WI publication schedule**). The list will also be posted on the IWRA homepage. Members are given 60 days after publication of the names of candidates to send in petitions to add additional candidates (each requires 50 member signatures with no more than 10 from one country).

### **5. Mailing of election ballots**

Election ballots are sent out to the membership by the Executive Director no later than 60 days prior to the date of the election. The members have the 60 days to return the ballots.

### **6. August-November 1, 2009 (depending on date of announcement)**

All votes are counted and new officers notified. The Board will delegate its supervision of the counting to a “local committee” nominated by the Executive Director and approved by the Board.

#### **7. Fall 2009**

The newly elected officers are introduced and “installed” for 2010–2012 term during a meeting of the Board of IWRA.

#### **8. January 1, 2010**

New IWRA Officers and Directors assume all responsibilities.

**All IWRA Members are requested to send nominations to Cecilia Tortajada, Chair of the Nominating Committee for the 2009 Elections of the IWRA Executive Board 2010–2012 at [iwra-office@wisa.org.za](mailto:iwra-office@wisa.org.za).** Members of the Nominating Committee include Benedito P. F. Braga (Brazil), Alexandra Pres (Germany), Shaofeng Jia (China), Sally J. Robinson (Australia), Frank Hartvelt (USA), and J. I. Matondo (Swaziland).

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## **C**ongress Report

13th IWRA World Water Congress, Montpellier, France, 1 – 4 September 2008

IWRA’s 13th World Water Congress took place in Montpellier, France in 1 to 4 September 2008. This internationally leading event on water and global changes provided a broad supply of studies and experience on a broad spectrum of topics classified under eight main themes:

- Water availability, use and management
- Towards the future: water resources and global changes
- Climate change and disasters
- Development of water resources and infrastructure
- Water governance and water security
- Water conservation and demand management
- Financing water development
- Capacity building

Besides the ordinary oral scientific sessions, 14 special sessions and a rich variety of posters were presented. The special sessions included the following titles:

- Sustainable financing to ensure affordable access to water and sanitation: lessons from the OECD
- Assessment of climate change impact on the Arab Region
- Ten years of the Brazilian water law: achievements and new challenges
- Water in mountains
- Future trends of water and food security in Central Asia, implications for reaching the millenium development goals
- Scientific and technological innovation in water management in Japan and proportion of international collaboration

- Challenge Program on Water and Food: water, agriculture and poverty alleviation in basin focal projects
- Training needs in the water sector in Sub-Saharan Africa
- Risk management for water in the Mediterranean region, an example of actions in research development
- Imagining future waterscapes in the Mekong region
- Challenges and current trends in agricultural research for improving water use and management in cropping systems
- Normalisation and innovation / research in the water sector - the bridges required in the European context
- Transboundary aquifers
- French Water Agency actions aligned with integrated water resources management and the European Water Framework Directive

As the scope of the congress was very broad, the findings were equally varied. The baseline is that water resources science today is at the intersection of natural sciences, environmental sciences, as well as to economics and finance. The social and political sciences have also entered in the picture with increasing weight. On the top is the need to find solutions to problems and not solely provide diagnostic studies. Engineering solutions, human capacity building, financial approaches and links to politics are an instrumental part of meaningful water research within the context of global changes.

In what follows, the main issues deliberated at the congress are summarized. The eight main themes are being used as the starting point, although some of the themes are combined, and the outcomes of the Special Sessions are embedded under the main themes.

#### **A. Water availability, use and management: past, present and towards the future**

These topics ranged from diagnosis and forecasting of hydrological, ecological and water quality systems to integrated management of aquatic and sociopolitical systems. Methodologies and approaches of research and management were in important role in many of the presentations. Those included computational and statistic approaches as well as complex management schemes such as Integrated Water Resources Management and European Water Framework Directive. A number of sessions were devoted to regional development in large geographic areas, many of them in a transboundary and international setting.

##### *From optimal resource capture to political*

In 1970s, the mainstream textbooks advocated the 'ideology' of optimal water allocation in which the costs and benefits were compared and optimization routines were proposed to search the most economically profitable allocation of water. This approach was first challenged by the raising environmental concerns, followed later by raising social concerns. The optimal allocation philosophy was often seen to favor those users whose activities can easily be measured in money and whose turnover is large and visible. The environment, the poor and the traditional societies had no place in this model.

The environmental values have been gradually incorporated in the mainstream water resources management. The social concerns follow but they have still a longer way to go to be mainstreamed. But the relatively broad interest into social impacts at the presentations in Montpellier was a clear sign that certain progress is taking place.

The next wave – already in move – is the political and governance dimension of water management. The ongoing decade has seen a soaring interest in issues such as international water politics, transboundary water management, the political economy of water, and stakeholder dialogues. Much emotion is going around these concepts, and many links are being made between water politics, environmental concerns and social issues. This wave was

also present in Montpellier, and it may even be noted that what comes to the number of special sessions and ordinary presentations related to water politics (in a broad sense), the issue is in rapid progress towards becoming part of the mainstream elements in water resources management.

#### *Large water systems, global changes*

IWRA's Congresses have grown increasingly strong in regional sessions and analyses of large river basins. In Montpellier, the variety and quality of such events and presentations was remarkable. Also nationwide scenario and development studies numbered quite high.

Along with the Global Changes theme of the Congress, we expected many papers related to major changes in global economy, trade, demography, urbanization, human development, land use, and climate change. Whereas those were present in numerous studies, I felt that these issues, with the exception of climate change, have not penetrated sufficiently into our field.

All the world's leading schools on international waters were in Montpellier. Political issues—often extremely sensitive ones—are obviously now more openly deliberated than before. Water resources should be managed within river basins but the borders of the basins rarely coincide with those of the national borders. 45 percent of the globe's land area belongs to such basins and on the top come those that depend on international groundwater aquifers. The politics and challenges of rivers such as the Brahmaputra, Mekong, Amu Darya, Niger, Jordan, Nile and numerous other large and small basins were deliberated at the congress.

#### **B. Climate change and disasters**

What comes to climate change, the contemporary challenge is to figure out where the risks to water systems and water management are, and relate those aggravated by climate issues to changes due to other reasons. The underlying factor behind climate warming is the trapping of increased amount of energy into the atmosphere due to growing concentrations of greenhouse gases and aerosols. The consequent growth of the energy content of the atmospheric-hydrological system tends in most cases to exacerbate many of the climatic phenomena. Storms and rainfall intensities are feared to become stronger, the droughts worse. Arid areas may become drier and rivers in humid climates may become more flood-sensitive. Several analyses in Montpellier draw attention to the melting of glaciers in mountain regions as well as in other cold climate areas.

The methodological approaches varied, but perhaps the most typical was to commence with a diagnostic of existing time series and other data which in some cases went back centuries. Thereafter future predictions and policy implications (mainly adaptation) followed. Another arm of methodology inclined more on risk-analysis but sound probabilistic studies remain very scarce and people tend to rely more on deterministic scenario simulations.

The trend is clearly towards more analyses in which other changes such as those related to economic sector activities, land use, social issues as well as demographic transitions are included.

Another trend is the widening geographical coverage. Conventionally, studies on North America, Europe, Australia and Japan have dominated. The geographic coverage has recently become substantially more balanced. The Montpellier Congress witnessed the reinforcement of this tendency with a substantial number of studies on Africa, Latin America and the Mediterranean region as well as most other parts of the world.

This disparity in adaptation and mitigation capacity should be still more profoundly recognized and emphasized but the Congress made an important leap forward in this regard. It is not usually the same individuals, communities or countries that must adapt to climate changes and who should mitigate those changes. A worldwide disparity is massive, and the

poor part of the human population suffers disproportionately from changes without much possibility to mitigate the effects of climate change.

The human dimension should be reinforced within the adaptation and mitigation discourse. Community involvement, awareness, education and capacity building remain rarities in climate change studies.

### **C. Development of water resources and infrastructure**

The world constructs now more than ever before. The world population grows with 70 million people per year. All of this growth ends in urban areas, two-thirds of that in Asia and most of the rest in Africa. Global economy keeps expanding and housing situation, industry and infrastructure are developing with a remarkable pace. This does help millions reach year out of poverty, but it also unfortunately polarizes many social settings and is even politically quite challenging.

The Montpellier Congress had most of its papers under this title in the 'soft' side of the issue, namely in data and information methodologies such as monitoring, modeling, Geographic Information Systems, Decision Support Systems and risk analysis, as well as the human component including social and political questions.

Besides, social issues and other 'software' of water resources development, the 'hardware' exist, and needs research. In fact, the water infrastructure development demands are enormous today. The number of papers was perhaps smaller than expected but the quality was good. More than half of them dealt with analysis and management of risks and disasters. The other, perennial hot topics relate to energy production, water supply, wastewater treatment, sanitation, and agriculture. Besides, infrastructure issues were analyzed in many papers classified under governance or demand management.

Yet I still feel that the issues related to water quality is still far too often disregarded in this context although the concern might be growing. More attention is needed on the mounting deterioration of natural waters due to improper treatment of waste waters, as well as contamination of surface and ground waters due to human activities.

### **D. Governance, water security, capacity and demand management: Approaching the people in charge**

The Montpellier Congress had much to offer on 'water governance'. This broad theme ranged from local water governance to governance of international rivers, from human rights and local participation to governance of water quality. A bulk of the water politics related titles were treated under the governance theme.

Conventionally the water resources management science has concentrated on the management of natural water systems with technologies and policies. The Montpellier Congress was a landmark in linking to this also the viewpoints from the direction of human systems; various governance and human capacity issues were now represented far more than before. Water as a basic human right and the importance of open and equitable information and public awareness have become hot topics. This tendency is equally clear in discussing the implementation of European water policies as it is in improving water supply of Vientiane or basin management policies of the Aral Sea or the Mekong River.

'Conservation and water demand management' was an overarching theme that brought together the role of the people, environment, and improved water use. Whereas the augmentation of water supply and rationalization of water allocation have been focal points in water resources management in the past – spiced with environmental and social constraints – the philosophy of looking at the water demand side is seemingly taking a stronghold. The increasing application of market mechanisms in economizing water use, the conservation of



natural water supplies in order to reduce the human water footprint as well as working against ecological deterioration of water resources have become mainstreamed. The roles of capacity building, education, institutional development, stakeholder involvement, good governance, and technological progress are issues being emphasized today.

## **E. Financing**

Whereas water services and water access have largely been seen as a public responsibility, the tendency today is to require cost recovery from municipal water utilities, irrigation water suppliers and other water service providers. Determination and charging of water tariffs are issues that are sensitive to political conflicts and tensions between various stakeholders. On the other hand, the adoption of economic instruments often clarifies responsibilities, increases efficiency and allows the cost recovery for the operation and maintenance of the water service and related infrastructure. Agriculture is by far the largest water user on this planet. Yet, the implementation of economic instruments in agriculture is far more challenging than in water supply or in industry.

Perhaps most often the bottlenecks of applying economic instruments are on the institutional and on political side; in regulation, in monitoring, in social and political acceptance, community involvement, etc. Potential efficiency benefits of applying economic instruments are totally conditional to correct pricing and robust institutional control. Otherwise, the application of economic instruments may lead to inferior or questionable benefits.

Introduction of financial and economic instruments to the basic functions of traditional livelihoods which dominantly consider water as a common property resource is an extremely delicate process and should be done with the simultaneous introduction of financial systems such as micro-financing or insurance systems to balance out some of the risks due to natural climatic variability. Another challenge comes from the need of securing sufficient water to ecosystems.

Equally basic is the compliance of the water pricing schemes with cultural ethic and religious values were stressed by many in Montpellier. Value conflicts are very easy to build up but difficult to solve.

## **Where next?**

I started by defining water resources management as an intercourse between people and water. After all, my own feeling is that at the 13th World Water Congress in Montpellier in September 2008, IWRA has taken a leap forward in the 'people' side, or moved more than little towards the 'soft' direction. Particularly this seems to have taken place in the progress of the social impact side as well as water governance including institutional and organizational aspects, water demand management, water politics, etc. Some of the conventional strongholds of the field, such as physical infrastructure, data management and analysis, modeling, economic valuation of water through agriculture, energy sector, water supply etc were present but more and more looked at least partly through the glasses of the 'soft' aspects.

I do not guess where the focus shifts in coming years, but this will be seen already in Recife, Brazil, in 2011, at the 14th IWRA World Water Congress. The geographic focus will expectedly differ from what we had in Montpellier, and I am very eager to see how the topics are going to evolve.

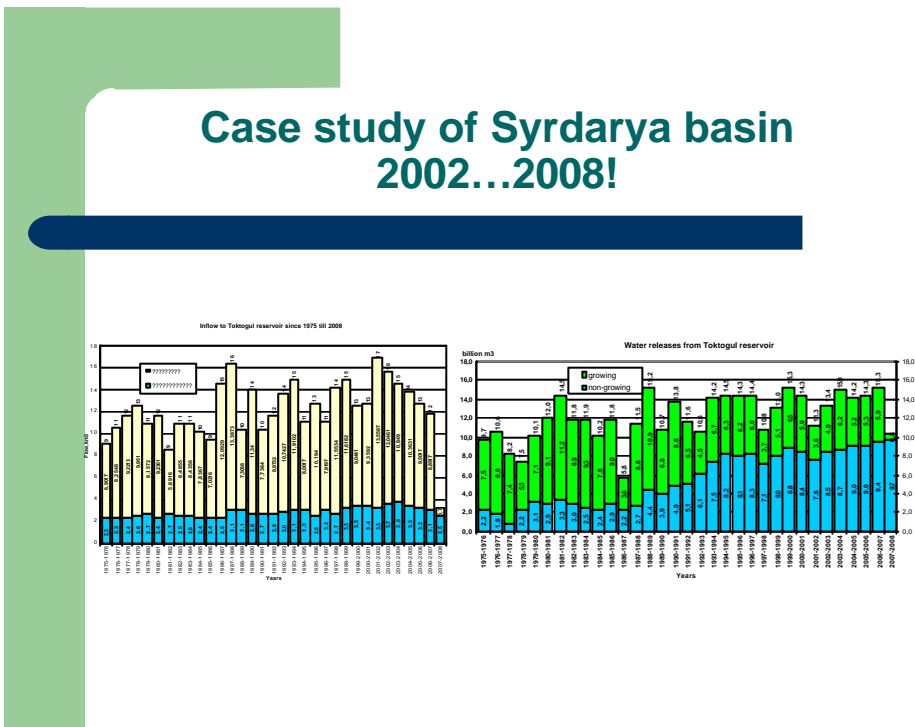
**OLLI VARIS**  
**Vice President, IWRA**  
**Chair, International Scientific Committee of the Congress**

# Case Study of the Syrdarya River 2002–2008

Dear Colleagues,

I would like to share with you my views on the impact of a year of very great water scarcity in Central Asia. Water availability along the Amudarya and Syrdarya rivers was less than 70 percent of the average flow, creating enormous problems for millions of people, threatening the conservation of the deltas, and especially the irrigation systems. Some 65 percent of Central Asia’s population is rural and they all depend on irrigation, as farmers, workers in agro-industry, and as ordinary citizens. Because employment in irrigation-related activities has dried up, more than 5 million unemployed people have moved as “guest workers” to Russia, Kazakhstan and elsewhere.

More than 10 years ago, discussions among the countries that share the River Syrdarya led to an agreement on hydropower needs that dictates changes from water accumulation in the rivers during winter to storage in reservoirs in summer in order to cover the energy needs of upstream states in winter. Because of drought, however, the agreement was not observed in the 2007-2008 period



## Case Study of The Syrdarya River 2002-2008

Even in the period from 2002 to 2006, which was very humid, the increased flow into the Toktogul reservoir was accompanied not by the accumulation of water but by an increase of hydropower production in winter of almost 40 percent for export from Kyrgyzstan. Although, under a memorandum of understanding and the schedule of the Interstate Commission for Water Coordination of Central Asia (ICWC) in the winter of 2007-2008 up to 8.5 km³ could be released, the hydropower organization overused 2 km³ of water. The result was flooding in Kazakhstan that caused damage of \$20 million and the loss of Toktogul’s regulatory capacity. Now the Prime Minister of Kyrgyzstan Igor Chudinov, has said that the other riparian states will have to cut back on irrigation. And he added: “Toktogul is ours and from now on it will serve the needs of our country!” Kyrgyzstan has backed these words by demanding that lowland states pay for the energy they need at a price of 7 cents per kWh, some 10 times the cost of production and four times the current market price in Central Asia.

## THE ARAL SEA BASIN

I would like to offer some comments on the basis of 16 years of experience in working for the ICWC for the Aral Sea basin. The ICWC's major function is the annual and seasonal planning of flow in the two rivers. Water allocation among the five states involved was going well until the dispute arose.

The issues involved are as follows:

### 1. Weakness of international water law

Cross-border water cooperation faces difficulties everywhere. Restrictions are being increased by the growth of "hydro-egoism", especially among upper-watershed states. These countries tend to be strongly motivated by the commercial appeal of hydropower, whose tariffs have risen in tandem with the prices of oil and gas. As the prices of rice, wheat and other food products rise as well, the doctrine of absolute territorial sovereignty leaves many riparian states at a severe disadvantage.

Cross-border cooperation is weak because of the weakness of international water law. Comparison of the principal provisions of the 1966 Helsinki Rules with those of the 1992 Water Convention and the 1997 Watercourse Convention shows that the power of international water regulations was diminished by the lack of clarity in the rules. As a result, many governments now regard international water law as they would a favourite grandmother, to whose views everyone defers while doing whatever they see fit in pursuit of their own interests and aspirations.

The growing scarcity of water is an issue that should be added to the agenda of the UN Security Council. Although the legally binding nature of Security Council resolutions made on issues other than Chapter VII (*Action with Respect to Threats to the Peace, Breaches of the Peace, and Acts of Aggression*) of the UN Charter are unclear under international law,<sup>1</sup> the Council appears to be the only body capable of enforcing Millennium Development Goals in areas such as water supply and the campaigns against poverty and hunger. The global monetisation of water has endangered supplies, especially in arid and semi-arid areas. Stricter rules that embody more clarity should ensure that human rights to water – which include the right to life itself – are protected.

### 2. Sharing the benefits

The sharing of benefits is connected closely with an understanding of the rules on "equitable and reasonable utilisation". The assessment of benefit should always take into account the extent of damage caused by actions on cross-border waters. For example, our estimate of the benefits of construction of the Rogun hydroelectric scheme on the upper watershed of Amudarya river revealed that the most effective regime of water release from reservoirs for hydropower production is the winter regime.

Under the winter regime, hydropower achieves its maximum effect, but at the same time it damages the middle and lower reaches of the river. States that produce hydropower, however, do not want to take this damage into account. We need to reach an understanding on regulation of the interrelation of riparian states that, as well as helping them to share the benefits, makes them liable to account for any damage caused. General international law and its provisions for the avoidance of harm could provide a suitable framework for water-related issues.

### 3. Legal instruments

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<sup>1</sup> In 1971, however, a majority of the International Court of Justice members asserted in the non-binding *Namibia* advisory opinion that all UN Security Council resolutions are legally binding. This assertion by the ICJ has been countered by many international lawyers who argue that Chapter VI resolutions *cannot* be binding.

In most cases, the legal instruments that govern the management of trans-boundary basins are very weak. Indeed, more than 80 percent of basins lack any multilateral agreement. Priority must be given to the creation of a model agreement, as well as additional regulations that can provide rules for the management, operation and flood protection of trans-frontier rivers, as well as for the resolution of conflicts involving them.

#### 4. Institutional agreements

Institutional agreements are needed to establish proper rules and a format for river basin organisations, taking into account specific local conditions and the direction of water use. These rules have to stipulate not only the structure, responsibilities, rights and financial status of the organisation, but also the ways in which the public can participate in them. Power and responsibilities must also be shared between basin organisations and national authorities or organisations, while the basin authorities must be given a status that facilitates enforcement of their decisions. With the exception of the International Joint Commission between the United States and Canada, there appears to be no model that the others can follow – certainly not, for the moment at least, the Mekong Commission, under the UN's umbrella.

#### 5. Information exchange

The exchange of information is very important in helping riparian states to manage, operate, and predict available resources of water, as well as to organise rational water use. Refusal to present necessary information or – as often happens now – the presentation of inaccurate information about flow, water delivery and so on should be regarded as a serious offence with major legal consequences. The exchange of information should also be a precondition for assessment of “equitable and reasonable” water use.

#### 6. Water's place on the global agenda

Most problems in water governance are created by decision-makers who try to use water as a tool with which to build power. Successive ministerial declarations – Hague, Bonn, Kyoto, Mexico – have offered little hope of any improvement.

Because water is crucial for human development and survival, it should receive the top priority of international organisations. One possible way to achieve this would be to transform UN Water into a special World Water Tribunal. The tribunal could report to the UN General Assembly about violence on water-related issues or cases in which failure to attend to water needs constitutes a crime against humanity.

#### 7. Training and pilot projects

Our experience tells us that training and regional projects are important instruments for strengthening collaboration among riparian states. The mutual training of specialists and stakeholders at each level of the water hierarchy lays a foundation for understanding among riparians that can promote a consensus on controversial issues and the elaboration of joint action plans.

The second important element is joint work on regional projects that aim to improve water use. Comparative results, approaches and achievements permit close cooperation among representatives of different states. One of the examples is the IWRM-Ferghana valley project, in which all three states participated. As a result, water releases from rivers were reduced by 20-30 percent, and 85-95 percent equity was achieved in water allocation.

I appeal to all you, my colleagues, to develop a campaign for the protection of water rights in the broadest sense. The World Water Council, WWF5 in Istanbul, the United Nations and the world community in general must strive to protect those struggling to survive under the growing water deficit.

**PROF. VIKTOR DUKHOVNY**  
**Director, IWRA**

## Water, the Subject of an International Exhibition

### Introduction

From 14 June to 14 September this year the city of Zaragoza in Spain held an international exhibition focused on a single subject: *Water and Sustainable Development. Zaragoza 2008*, situated on the banks of the river Ebro, was the first international exhibition in history devoted to one single theme, a wide-reaching event that enjoyed the presence of 104 countries and all 17 autonomous Spanish regions. There were first-rate scientific debates on many aspects of water, in which 1,500 experts from 87 countries participated, held within a framework of clear commitment to sustainability, a subject of such paramount importance to the maintenance of the dignity of human life itself. Over 3,400 different events, together with the attendance of almost five and a half million visitors, give us an idea of the success of the exhibition.

The discussions about water that took place revealed that well into the first decade of the XXI century problems concerning both the environment and a numerous population still without access to clean drinking water or the means of treating it are still very severe and for those who suffer them at first hand life becomes unbearable. Regarding these problems, there have been many international meetings and conferences over the last twenty-five years and active measures have been agreed upon to solve the lamentable situation of more than a third of the world's population. Nevertheless, an analysis of the two most important proposals, the *Millenium goals* and the *EU water initiative*, reveals somewhat poor results.

### Terms of Reference for the Meetings

*La Tribuna del Agua* (Water Tribune) supported the development of this main topic, the contents of which were divided into two large sections: on the one hand the technical and scientific debates held during the *Thematic weeks* and the *Parallel and Special events* and on the other the *Agora*, where, in line with what was being debated by experts, citizens discussed the subjects of greatest social impact: the price of water, the need for more irrigated land and the conditions required when constructing large hydraulic infrastructures; without forgetting the implications for cultural relations that the use of water arouses in very different environments.

During the Tribune the *Agora* was a space for information and popular debate and became the centre for social communication throughout the exhibition. Not only did it function as a way of divulging to the general public the ideas, projects and solutions that had been discussed amongst the experts in private session during the Thematic Weeks, but it also managed to become an independent space for dialogue and education.

For the first time, many people were able to ask renowned world experts such as Roger Stone (Australia) and Michael Tsimplis (University of Southampton) about their current projects.

Some of the high spots of the *Agora* were the presentations of Jose Luis Sampedro with his work *Balada del Agua* (*The Ballad of Water*), Jeremy Rifkin with his essay on water and the future of renewable energies, Carmen Sarmiento with her television documentaries *El azote de la sed* (*The scourge of Thirst*), based in Africa, and the world-wide premiere of the first full-length, Spanish environmental film, *Cenizas del Cielo* (*Ashes from Heaven*) by Jose Antonio Quiros.

### The Thematic weeks

The *Thematic Weeks* were the vital heart of the Water Tribune, which in the end revolved around reflections and deliberations about water and its uses. During ten of the exhibition's

thirteen weeks, three- or four-day symposiums were held focused upon the following aspects of the rich and varied world of water:

- Water and land
- Water and cities
- Water for life
- Water, a unique resource
- Water supply and sanitation services
- Climate change and extreme events
- Water economics and financing
- Water and society
- Water and energy
- New sources of water: reuse and desalinisation

The *Zaragoza Charter*, put forward for the approval of all public authorities and citizens, is a final summary that includes a series of principles and proposals which, if the former are respected and the latter applied with decision and resourcefulness, could help overcome the water problems being experienced by humanity.

#### Water, Land, Towns and Energy

The first, third and ninth weeks focused on three of the four mythical elements of the pre-Socratic philosophers and especially on the connections between water and earth and water and energy (fire). One general conclusion can be deduced from these discussions: nowadays water and energy planning and management have to be considered in close harmony with each other.

Land-use planning and management in combination with water-resource management is still an unresolved problem in many developing countries. These deficiencies and omissions endanger vast land surfaces of the planet where ecosystems and water availability could diminish, thus reducing the sustainability of entire regions.

The nature of the vegetation cover in any catchment area is a factor that influences considerably the quantity of natural water available in the form of surface run-off or ground water obtained through rainfall.

The uses for the land established in any given territory also go to determine the artificial demand for water. The economic development and productivity of a territory should be compatible with the conservation of nature and respect for landscapes and all this requires a rational use of water resources. From a human perspective land uses compete for water. Landscape configuration and the distribution of land uses affect water flow in terms of quantity and quality and therefore land use and vegetation cover have a great impact on the water cycle and its possible regulation by society. For example, a bare catchment area erodes faster and shortens the time water takes to travel to the sea. This matter is very relevant to human activity because water is only available for human use during this journey seaward.

The second half of the third *Thematic Week* focused on the importance of rivers as both water sources and key territorial elements in general.

The environmental value of rivers is very significant, both from a natural perspective and a social one. Clearly, the most essential resource they provide is water, but they also afford other benefits and uses of prime importance to human welfare. Furthermore, they form part of our cultural heritage and have been and continue to be a symbol of the identity of many populations and societies throughout history.

The main pressures that rivers have to endure derive from agriculture and town planning due to the unquestionable human need for water and land. We must try to minimise them however, so that when rivers have become unviable for whatever reason their original value and use can be recovered through restoration projects, without undermining non-speculative basic human needs.

River restoration projects are complex as they affect river flow dynamics; water quality, suspended and non-suspended particle transport and, of course, riverine ecosystems. This is why multidisciplinary groups should be in charge of these projects.

The relationship between towns and water was dealt with during the second *Thematic Week*. Towns have always been an important form of human settlement but nowadays they have become predominant and continue to grow at the expense of rural areas. It is beyond question that cities need land, water and energy but it is equally clear that the consumption of these basic needs is closely related to the urban model involved, either densely populated or more spread out. Thus the programming of urban development is and must be strictly regulated by the availability of these three resources. As far as this is concerned, a due respect for river beds and water channels in general, including those that cope with occasional flooding, may help resolve urban demands for open green spaces.

Well-balanced urban development, and therefore sustainable growth, requires committed civil participation; that of the authorities defending public interests is already assumed, but the former is only possible if the authorities offer the public complete, sincere and accessible information. A key idea in participation processes is to make the civil population realise that water and land are a common heritage and should be managed as such.

Water and land planning at the regional, river-basin or urban level allows us to balance local interests and risks with more wide-reaching common interests and risks. During the ninth *Thematic Week* the focus was upon water and energy and the close relationship between these Pre-Socratic elements (fire = energy) was highlighted. This is because water itself generates energy as a function of the height from which a determined mass of water descends. Thermoelectric production also requires the use of water. On the other hand, water consumes energy when we have to raise it to a higher level to provide sufficient pressure to irrigation systems (spraying or trickle irrigation for instance).

Nowadays, in countries where the available resources are practically exhausted, the technique of reverse osmosis of saline or brackish water can be used, but this process requires quite a lot of energy.

Thus we may deduce from all the above that the use of three of the four elements that the Greeks considered as being essential, water, land and energy, has to be planned and managed as a whole.

### Water and health

During the third and fifth *Thematic Weeks* discussions centred upon the relationships between water and life and water and health preservation on the one hand, and on the other, the delivery of the services necessary for both rural and urban populations to be able to count on a supply of clean water and the sanitary infrastructure necessary for a healthy life.

As far as the factors determining health are concerned, we can divide the issue into those which are in the hands of each individual, such as his personal lifestyle and behaviour, and those which are not, such as social, economic and environmental conditions. Amongst these latter factors water plays a prominent role both with regard to its quality and accessibility.

Health and our surrounding environment are intimately related and this relationship has always been of prime importance for public health. On the basis of this premise three main questions were subject to debate:

- a) *Water for life and public health*: Access to adequate supplies of clean water is fundamental for the health of all people and a lack of such access is responsible for the burden of serious illness and death currently experienced by numerous populations.
- b) *Water for life and society*: It is essential to discuss suitable modes of intervention to guarantee access to water and sanitary infrastructure and to implement adequate solutions to achieve these objectives.
- c) *Water for life and the implications for those who have to make the decisions*: Academia, society and the public authorities have an obligation to find and put into practice political measures to guarantee water for healthy living.

Amongst the final conclusions, worth emphasising is the need to make the whole world aware that many people do not even have enough water to keep them alive. This situation is enough to negate any efforts to implement any other aspects of human rights. It is also absolutely necessary to distinguish clearly between what water is as a human right and what it is as a business. It is the job of supply services to attend to these indispensable requirements to make it possible for everyone, both from rural and urban societies, to live a healthy life.

The first question to resolve is that of the availability of water both now and in the future. Technically we have made great advances towards solving this problem because apart from traditional methods we now have new technologies at our disposal that allow us to desalinate seawater and brackish water. It is still a very expensive procedure but one which can be used in many countries to take advantage of this kind of water.

An institutional framework is fundamental for the provision of such a service and must adhere to the undeniable premise that water is a resource belonging to all and should thus be administered by the state. Furthermore, the existence of diverse agencies possessing rights to provide the service demands that they should in some way be co-ordinated. Public participation is also required and this must be encouraged. All this should take place within the framework of the ideal territorial unit for the planning and management of water use, which most people agree is the hydrological basin.

Finally, given the quantity of the investment needed to be able to count on sufficient installations to provide the service, it will be necessary to arrive at formulas to recover the investment, whatever its origin, by charging an affordable price for the water.

### Climate change

I am inclined to think that this week was the most interesting, not only because of the immediacy of the subject but also because of the harmony and agreement to be seen amongst the various speakers. The most important aspects to arise were:

- The demonstrable facts;
- The forecasts of the models;
- Action programmes.

Amongst the demonstrable facts it should be emphasised above all that global warming is affecting glaciers and polar zones, especially the arctic. In some regions (the Mediterranean basin amongst others) total annual rainfall has diminished and extreme weather phenomena



have increased in frequency. These two latter facts are already reflected in the resources available to us.

As far as forecasts based upon the various models are concerned, these quite logically are less precise, although they all augur a clear tendency towards a decrease in water resources, the desertification of large areas of land and an increase in sea levels.

Two coinciding stances were adopted with regard to proposals for future action, that of the expert Abel Mejías and that of Luis Mata, professor of the University of Arizona. A lot of work is being done on the problems already mentioned, mainly in developed countries, but little or nothing is happening in underdeveloped countries, which are precisely those that suffer the consequences of climate change the most. Basically, we must encourage these populations to adapt to the water situation needed for healthy living. We must understand that people with a life expectancy of around 40 years are not particularly interested in what is going to happen in 2050. Abel Mejías expressed it very graphically when he said that, "We must prevent millions of people from continuing to fall into the valley of death".

### Governance

As far as the essential issue of the management of water resources in an ideal world was concerned, there was practically unanimous agreement about the suitability of the hydrological basin, apart from some professionals in the field of law, who advocated the need to reconsider the matter. Their doubts were based upon what they referred to as an inadequate comparison between the situation in federal countries, where each individual state "has sole authority over its own responsibilities" and contributes them to the commonality of the combined states, and unified countries, in which all authority belongs finally to central government, although it might then cede power to its various regions according to its constitutional norms and the common wealth.

Consequently, many of the experts participating in the talks found that Spain's approach to governing water management by giving overall responsibility of river basins to autonomous regions, although they might be shared by various regions, to be a somewhat risky strategy.)

### Economy

From earliest times, but especially from the Roman Empire onwards, water has been managed by engineers, who transformed a natural resource into an accessible resource, and by lawyers, who established rights of usage and the laws to protect those rights.

From the middle of the twentieth century, when water resources began to run short, it became necessary to introduce economy into its uses, amongst which irrigation stands out because this represents the predominant demand in numerous countries. As far as economic activity is concerned, water is an input, which should be dealt with in the same way as any other (always bearing in mind its own peculiarities), that is to say dealt with according to the principles of economic theory.

Thus to achieve an efficient use of water it is necessary to apply market strategies, which in turn will indirectly improve efficiency from an engineering point of view. Neither must we forget that that resolving conflicts concerning the use of water will also require other scientific disciplines.

With regard to the special peculiarities of water, which at times is considered to be a public good and at others a private one, it must be born in mind that the free market is not very adaptable when it comes to assigning this kind of product. Nevertheless, what is inevitable is the establishment of a price for water that reflects the true nature of its scarcity.

Apart from this, water is a fluid element that can be used successively by different consumers and so when any market transactions are entered into, the rights of third parties who are not party to the transaction in question must be born in mind.

**JUAN LÓPEZ-MARTOS, CONSULTANT**  
**Granada, Spain.**

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## **F**orthcoming Events

### **NGWA International Conference on Non-renewable Groundwater Resources, 13-14 October 2008, Portland, Oregon (USA)**

Supported by UNESCO International Hydrological Programme (IHP)

For more information:

<http://www.ngwa.org/DEVELOPMENT/conferences/details/0810135055.aspx>

### **Role of Hydrology in Water Resources Management, 13-16 October 2008, Capri, Italy**

The purpose of the Symposium is to discuss ways in which hydrologists can contribute most effectively to the planning and management of freshwater projects, including the efficient operation of existing systems faced with new socio-political situations.

[http://www.unesco.org/water/news/newsletter/192.shtml#news\\_1](http://www.unesco.org/water/news/newsletter/192.shtml#news_1)

### **Water Tech Asia 2008, 14 - 16 October 2008. Shanghai, People's Republic of China**

The Conference is supported by the International Water Resources Association (IWRA), the European Desalination Society and by CIWEM. With the regulation of "Building a Water-Saving Society and Promoting the Sustainable Development of Water Resources" issued, China central government determined to deepen the technology innovation in water industry. And technology is playing more and more important role to win the market during the intense competition. With an exciting line-up of 200+ top-level decision-makers from water industry, Water Tech Asia 2008 is aiming to accelerate the sustainable development of water resource and draw on key industry leaders to discuss how to seize the business growth opportunities through developing client-oriented technologies and adopting innovative technologies.

For details contact:

Ms Joanne Huang, Organizing Committee of "Water Tech Asia 2008", Global Leaders Institute at Tel: +86 21 52360030/32 Ext.6071 or Fax: +86 21 52360029 or

[Joanne.huang@globaleaders.com](mailto:Joanne.huang@globaleaders.com) or visit [www.watertechsummit.com](http://www.watertechsummit.com)

### **4th International Symposium on Transboundary Waters Management (TWM), 15-18 Oct 08. Thessaloniki, Greece**

Dr Alexandros Makarigakis (based at the UNESCO Windhoek Cluster Office) writes that UNESCO IHP and the UNESCO Chair INWEB together with the Aristotle University of Thessaloniki are organising the above conference, which is the follow-up to the III TWM symposium held in 2006 in Ciudad-Real, Spain.

The aims of the Symposium are:

1. To assess the state of the art and the progress recently made in the sustainable management of transboundary waters by different disciplines such as law, socio-economics and water science;
2. To review current major international programmes concerned with the assessment and management of transboundary water resources; and
3. To promote interdisciplinary approaches for integrated transboundary water resources management.

For more info please visit the new website [www.inweb.gr/twm4](http://www.inweb.gr/twm4)

**WEFTEC 08 - 81st Annual Technical Exhibition & Conference, 18-22 October 2008, McCormick Place, Chicago, Illinois USA**

WEF's Annual Technical Exhibition and Conference, offers the best water quality education and training available and is a leading source for water quality developments, research, regulations, solutions, and cutting-edge technologies. WEFTEC.08 attendees can design their own learning experience from a dynamic array of educational opportunities

For more info visit <http://www.weftec.org/Education/CallforAbstracts.htm>

**Membranes in Drinking Water Production & Wastewater Treatment Conference, 20-22 October 2008, Toulouse, France**

Arranged by INSA and the European Desalination Society the Conference is themed "Membranes in Drinking Water Production and Waste Water Treatment" and is supported by AWWA & EMS.

The Conference will be the 8th Conference in the series after Paris 1995, L'Aquila 1997, Amsterdam 1998, Paris 2000, Mühlheim 2002, L'Aquila 2004, Harrogate 2006.

The Conference Web-site is now open - You can still register and submit abstracts on:

<http://www.mdiw2008.com/>

**11th International Conference on Wetland Systems Technology for Water Pollution Control, 1-7 November 2008, Indore, India**

<http://www.wetland2008.org/SaveWater/>

**World Toilet Summit & Expo, 2-4 November 2008, Macau, SAR China**

Held in support of the United Nations International Year of Sanitation.

Details: Contact [info@worldtoiletevents.com](mailto:info@worldtoiletevents.com)

Enquiries: Visit [www.worldtoiletevents.com](http://www.worldtoiletevents.com)

**INWEPF 5th Steering Meeting and Symposium on "Efficient and Sustainable Water Use to Address Poverty Alleviation and Food Security", 13-15 November 2008, Bali, Indonesia**

The International Network for Water and Ecosystem in Paddy Fields (INWEPF) was established to pursue mutual benefit among the Asian regional countries to achieve three major tasks, including "Food Security and Poverty Alleviation, Sustainable Water Use and Partnership." In order to achieve its targets, INWEPF provides a forum where experts exchange information and study policy implementation and international cooperation.

Organised by International Network for Water and Ecosystem in Paddy Fields (INWEPF) Enquiries Ms Pandi Hutabarat at [pandimsh@yahoo.co.uk](mailto:pandimsh@yahoo.co.uk) or website <http://inwepf-indonesia.com/steering.htm>

**6th EarthWatch Conference on Water & Sanitation, 18-20 November 2008, Abuja, Nigeria**

Hosted by the Nigerian Water & Sanitation Forum and supported by and his supported by World Toilet Organization, the conference is themed 'the challenges of financing sanitation in Nigeria & West Africa towards achieving the MDGs'. The 1st ever sanitation and financing exhibition in Nigeria and West Africa will be held alongside the Conference.

The conference organisers are confident that the simple sanitation technologies (like urine diversion, composting toilets and others such South African Sustainable Sanitation technologies) presented by members of the WISA and other stakeholders in South Africa at the AfricaSan Conference in Durban in February 2008 will be relevant to Nigeria & West Africa.

For more details visit:

[www.earthwatchnigeria.org](http://www.earthwatchnigeria.org), [www.esa.un.org/iys](http://www.esa.un.org/iys) [www.worldtoilet.org](http://www.worldtoilet.org),  
[www.unesco.org/waterevents](http://www.unesco.org/waterevents) or contact Peter Cooley at [peter@earthwatchnigeria.org](mailto:peter@earthwatchnigeria.org) or  
+234 802 324 5314

**International Symposium on “Resolving the Water-Energy Nexus”, 26-28 November 2008, Paris, France**

The International Symposium on resolving the Water-Energy Nexus is held within the framework of UNESCO’s International Hydrological Programme (IHP) in collaboration with UNESCO’s Renewable Energy Programme and is organized by the non-profit association RED-Ethique. The meeting is also a preparatory event to the 5th World Water Forum, which will take place in Istanbul in March 2009.

Over 400 participants are expected, coming from different stakeholder groups, including: political and administrative leaders in international organizations, central and decentralized institutions, and non-governmental organizations; decision-makers of companies producing or exploiting energy, water, and sanitation services; representatives of water, energy, agricultural, urban, industrial and tourism sectors; managers of public and private companies in charge of technical policies regarding water and energy.

Organised by UNESCO and RED-Ethique

Enquiries Ms Valérie-Anne Kodjovi at [valerie-anne.kodjovi@developpement-durable.gouv.fr](mailto:valerie-anne.kodjovi@developpement-durable.gouv.fr) or website:

[http://www.unesco.org/water/news/pdf/FIRST\\_ANNOUNCEMENT\\_MAY\\_08.pdf](http://www.unesco.org/water/news/pdf/FIRST_ANNOUNCEMENT_MAY_08.pdf)

**GEO Tunis 2008: International Symposium on “Natural Resource Management and Study of the Impact of Climate Change with Geographic Information Systems, Science and Space Technologies”, 26-28 November 2008, Tunis, Tunisia**

The symposium will consider, among others, the topic of water resources sustainability and/or carried on operations, particularly the collection, storage and management of rainwater and tributaries; optimization of implantation sites for construction of dams; process hydrological modeling and spatial technologies; and sustainability of water resources in arid environments.

Organised by the Ministry of Environment and Sustainable Development of Tunisia; Tunisian Association of Digital Geographic Information

Enquiries Mr Mohamed Ayari at [atigeo\\_num@yahoo.fr](mailto:atigeo_num@yahoo.fr) or website

[http://www.geotunis.org/version\\_ang/index.php](http://www.geotunis.org/version_ang/index.php)

**Global Water Efficiency 2008 Conference & Exhibition, 27 – 28 November 2008, Limassol, Cyprus**

This first conference on Global Water Efficiency aims to raise awareness and assist utilities worldwide to become more efficient and to improve the operational performance of their water supply systems particularly in water scarce environments.

The conference is under the auspices of the Cyprus Commissioner for the Environment and is being supported by organizations such as the Department of Civil and Environmental Engineering of the University of Cyprus, the Alliance for Water Efficiency, USA, Fondazione AMGA, Italy, The Romanian Water Association, the European Desalination Society, etc.

World class experts will present at the conference and participants will have the opportunity to learn, to share knowledge and embrace opportunities. The Conference Preliminary Programme is herewith attached. The final programme and full list of speakers will be available shortly on the conference website.

The conference will host a small trade show, 18 exhibition booths, which will provide an ideal opportunity for companies to promote their services and products relating to all aspects of water management and efficiency. There are still some exhibition booths and sponsorship opportunities available and we advise you to contact us as soon as possible if you wish to reserve an exhibition booth or sponsor the event.

Please ensure that you reserve your place taking advantage of the early bird opportunity by registering on line today through the [www.globalwaterefficiency.com](http://www.globalwaterefficiency.com)

**International Conference on Water Scarcity, Global Changes and Groundwater Management Responses, 1-5 December 2008, University of California, Irvine, USA**

Supported by UNESCO International Hydrological Programme (IHP)

For

more

information:

[http://webworld.unesco.org/ihp\\_db/events/GenericView.asp?KEY=315](http://webworld.unesco.org/ihp_db/events/GenericView.asp?KEY=315)

**International Conference on Water Efficiency in Urban Areas, Würzburg, Germany, 29-30 January 2009**

This international conference aims at the global challenges regarding sustainable drinking water supply and wastewater management in urban areas. To cope with the challenges fresh thinking and an integrated approach is required to cover a wide portfolio of measures to improve water efficiency ranging from urban planning, to architecture, to water resources management and water treatment technologies. The international conference is organized by OTTI, Germany. It is being supported by IWRA. For more information, please visit <http://www.otti.de/pdf/wea3091.pdf>

**Disinfection 2009, 28 February – 3 March 2009, CNN Center, Atlanta, Georgia**

This conference provides a forum for those professionals concerned with disinfection needs and technologies. The conference will be focused on all aspects of the disinfection of water, wastewater, reuse water and biosolids. The conference will also have a special focus on the disinfection or other treatment of water and the treatment and disinfection of wastewater in small communities and households in developed and developing countries. <http://www.wef.org/errors/404.htm>

**5th World Water Forum, 15-22 March 2009, Istanbul, Turkey**

The theme is “Bridging Divides for Water”. Building on the success of the 4th World Water Forum held in Mexico City last March, which boasted over 15 000 visitors from every continent, Istanbul was selected as the host of the Forum from six possible candidates following an extensive process.

The 2nd Announcement for WWF5, which presents the Forum’s thematic development and serves to launch a call for contribution, is now available on the WWC website ([www.worldwatercouncil.org](http://www.worldwatercouncil.org)) as well as on the Forum website ([www.worldwaterforum5.org](http://www.worldwaterforum5.org))

**OZWATER 09 – Australia’s National Water Conference & Exhibition, 16-18 March 2009, Melbourne Convention & Exhibition Centre**

Call for papers now open and abstracts being accepted until **31 July 2008**. Exhibition and sponsorship opportunities are also available [www.ozwater09.com.au](http://www.ozwater09.com.au)

**Collection Systems, 19-22 April 2009, Kentucky International Convention Center, Louisville, Kentucky USA**

The 2009 Specialty Conference Committee is soliciting abstracts that focus on national collection system issues. Abstracts are also being solicited for several sessions on wet weather challenges in the Ohio River Valley and Midwest with outcomes or lessons learned that could be applied to national issues. System operations and specific project related experiences and case studies will be used to illustrate a range of collection system solutions and planning tools. <http://www.wef.org/errors/404.htm>

**5th IWA Specialised Membrane Technology Conference for Water & Wastewater Treatment, 1-3 September, 2009, Beijing, China**

First Announcement & Call for Papers issued. 2-page English abstracts must be submitted by 31 December 2008. For more details visit [www.iwa-mtc2009.org](http://www.iwa-mtc2009.org)

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