



Biosalinity News

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FROM THE EDITOR

This special issue of *Biosalinity News* covers the launch of the Arab Water Academy (AWA) in Abu Dhabi on 6 July 2008. The Academy is a new training institution established by the Arab Water Council (AWC) and co-hosted by the Environment Agency-Abu Dhabi (EAD) and ICBA.

The lead article covers the launch ceremony and the signing of the establishment agreements between the three partners.

Another article covers the outcomes of the *Building Human Capacity for Water Management Workshop* which followed the launch ceremony. More than 80 officials, experts and scientists from 25 countries around the world participated in the workshop from 6 to 8 July.

An article by Prof Peter Rogers from Harvard University covers an important topic about the *Challenges for tomorrow's executives in the water sector*.

Finally, a brief on AWA background, mission, programs and partners is included at the end, along with quotes from key participants of the workshop.

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Arab Water Academy launched



His Highness Sheikh Sultan Bin Hamdan (middle) and to his right H.E. Dr Ahmad Mohamed Ali, H.E. Dr Mahmoud Abu-Zeid and other ministers and key officials at the launch ceremony

The Arab Water Academy (AWA), an institution established by the Arab Water Council (AWC) and co-hosted by both the Environment Agency-Abu Dhabi (EAD) and the International Center for Biosaline Agriculture (ICBA), was officially launched on 6 July 2008 in Abu Dhabi, United Arab Emirates.

The launch was held at the Emirates Palace hotel under the patronage of His Highness Sheikh Hamdan Bin Zayed Al Nahyan, UAE Deputy Prime Minister and Chairman of the Board of EAD. His Highness Sheikh Sultan Bin Hamdan represented His Highness Sheikh Hamdan in the ceremony. Eight ministers of water, the President of the Islamic Development Bank (IDB), and the Chairman of ICBA Board of Directors attended the ceremony. Officials and experts from local, regional and international organizations and universities also participated.

The ceremony started with a speech by H.E. Dr Mahmoud Abu-Zeid, Minister of Water Resources and Irrigation in Egypt and President of the AWC, who stated that "The Academy is a response to the needs of the Arab community who seek each drop of water. The recent climate, economical and political changes require a new methodology, innovated sciences and advanced technologies to manage the exhausting water resources in the Arab region. We, the Arab Water Council, trust that the cooperation with the International Center for Biosaline Agriculture and the Environment Agency - Abu Dhabi, through the Arab Water Academy, will meet the challenges of the water sector in the Arab region".



From left to right: Speeches of H.E. Dr Rashid Bin Fahed, H.E. Dr Mahmoud Abu-Zeid, H.E. Dr Ahmad Mohamed Ali, Mr Fawzi AlSultan and Dr Joseph Saba at the launch ceremony

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Addressing the gathering, Dr Ahmad Mohamed Ali, the IDB President, said "As the economies and population grow, the cost of providing water services will continue to put tremendous pressure on governments and the region will increasingly need smart solutions that combine effectively engineering and managerial prowess. This will require re-training water policy makers and managers, in order to meet the water challenges of the twenty-first century and will require commensurate institutional and human capacity, underpinned by strong political commitment".

Mr Fawzi AlSultan, ICBA Chair of the Board of Directors, added in his address that "We, who inhabit the Arab region know only too well about the importance of water. Its existence and its scarcity are interwoven throughout our history. From time immemorial, water has been the driving force behind nation building, human migration and commerce in Arabia. One of the best ways to go about furthering our aims is to work for the enhancement of human capacity building in the water sector, and that is why we have worked so hard to foster the Arab Water Academy".

Dr Joseph Saba, Director of the Strategic Operations Department, MENA Region, World Bank informed the audience that "The challenges of water quality and quantity are increasing dramatically. That is why the Academy will be a focal point to mobilize the best international knowledge and link it with everyday work of decision makers in the region. The Academy will become a demonstration model for the rest of the world of how to manage scarce water resources. The World Bank supports this initiative by providing a financial contribution to the Academy programs".

His Excellency Dr Rashid Bin Fahed, UAE Minister of Environment and Water, emphasized that "Integrated water resources management is becoming more important in the Arab region and achieving it will require building capacity through the Arab Water Academy. The UAE Government is pleased to host the Academy and will support all the efforts to manage scarce water resources in the UAE and the whole region".

Speeches were followed by a short film presented by EAD on the water resources situation in the United Arab Emirates.

AWA Establishment Agreements Signed

Honored by the attendance of His Highness Sheikh Sultan Bin Hamdan and His Excellency Dr Rashid Bin Fahed, UAE Minister of Environment and Water, the Academy establishment agreements were signed at the end of the launch ceremony. The agreements are:

1. **Arab Water Academy Statute** signed by His Excellency Dr Mahmoud Abu-Zeid, President of the

Arab Water Council, His Excellency Mr Majid Al Mansouri, Secretary General of EAD and Mr Fawzi AlSultan, Chairman of ICBA Board of Directors.

2. **MoU between AWC and ICBA** signed by the President of the Arab Water Council and the Chairman of ICBA.

3. **MoU between ICBA and EAD** signed by the Secretary General of EAD and the Chairman of ICBA.



Signing of Arab Water Academy Statute by His Excellency Dr Mahmoud Abu-Zeid, President of the Arab Water Council (middle), His Excellency Mr Majid Al Mansouri, Secretary General of EAD (left) and Mr Fawzi AlSultan, Chairman of ICBA Board of Directors (right). The event was honored by the presence of His Highness Sheikh Sultan Bin Hamdan (back right) and His Excellency Dr Rashid Bin Fahed, UAE Minister of Environment and Water (back left).

Building Human Capacity for Water Management Workshop

Abu Dhabi, UAE, 6-8 July 2008

To further the aims of the Academy, a workshop on *Building human capacity for water management* was held in Abu Dhabi from 6 to 8 July 2008 following the launch of the Academy. The specific objectives of the workshop were threefold:

1. *Build on the February 2008 brainstorming workshop in Washington DC.* Workshop participants identified and designed seven flagship educational programs (see box: *Priority Programs and Objectives Proposed and Academy framework* graph in page 4) for executives and professionals to be delivered towards the end of 2008 and beyond. The design covered target audiences, course duration and key subjects. The aim was to effect strategic changes in water resource management for sustainability and growth in the shortest possible time span. The programs will provide the skills needed to:
 - Make effective decisions within the current institutional and political realities.
 - Respond productively to changing socio-cultural and political dynamics in order to make the change a reality.
 - Take advantage of new knowledge and technologies for water management.
2. *Develop a 'community of experts' by bringing together decision makers, water managers, academicians and international experts.* The workshop identified potential faculty, resource personnel, coaches and mentors who can provide advice concerning the programs, participants and faculty as the Academy develops.
3. *Identify building blocks for the Academy's business model.* The Academy's success depends on financial sustainability. With this in mind, the workshop examined business models from capacity-building organizations, selecting options

that reflect the region's experience, corporate culture values and principles.

The workshop featured papers by several world-renowned experts in water management, including:

- *Outcomes of the February 2008 brainstorming workshop and areas for focus: examples from the field:* Julia Bucknall, Lead Natural Resources Management Specialist, World Bank.

"AWA provides a venue for the implementation of world-class training programs in an atmosphere of academic excellence and builds the capacity of the water management and planning sectors throughout the Arab region and beyond."

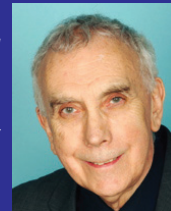
Dr Shawki Barghouti, ICBA Director General



"Training professionals to deal with the challenges in the Arab region will not lead to measurable change in the shortest possible time. Inspiring leaders at all levels in the society to be the change they want to see regarding water and growth, and to provide them active guidance and support in making that change a reality. That is what the Arab Water Academy stands for."

Dr Atem Ramsundersingh, Senior Water Management and Institutions Specialist, World Bank

"Water is a prime strategic natural resource in the Middle East. It has been managed effectively for thousands of years in the region. But in the past four decades the need to use water even more effectively has become very urgent. A major priority is to get water users - in the home, at work and especially on the region's farms - to use water more carefully."

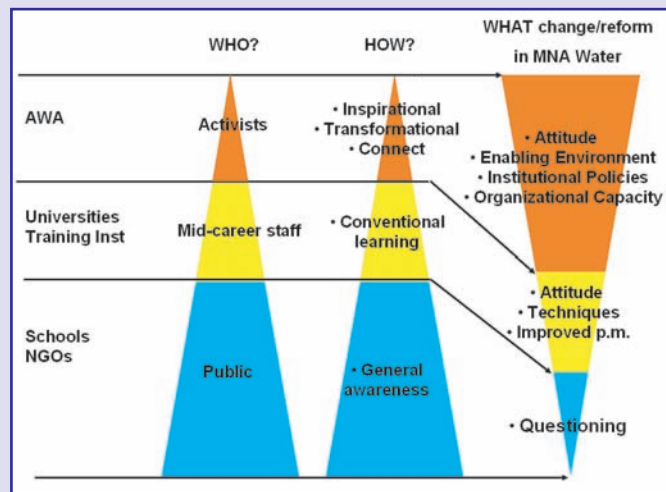


Prof John Anthony Allan, London Water Research Group, University of London, UK



Officials, water utility managers, academicians and international experts participated in the workshop

- *Overview of the workshop and the way forward for the Arab Water Academy - strategy and directions:* Dr Shawki Barghouti, Director General, ICBA.
- *Water leadership - present and future challenges for tomorrow's executives:* Prof Peter Rogers, Professor of Environmental Engineering and City Planning, Harvard University, USA.
- *Future water resources planning in the Arab states - challenges and opportunities:* Prof Tony Allan, School of Oriental and African Studies, University of London, UK.
- *Water and environment:* Dr Stephen Lintner, World Bank Senior Advisor.
- *Water law - water leaders:* Prof Patricia Wouters, UNESCO Centre of Water Law, Policy and Science, University of Dundee, Scotland, UK.
- *Water governance:* Prof Chris Perry, Cranfield University, USA.



Academy framework

More than 80 participants including ministers, water utility managers, academicians and international experts, from 25 countries participated in the 3-day discussions of the workshop.

Priority Programs and Objectives Proposed

1. **Executive Leadership Training for Tomorrow's Water Management**

Effective communication skills and negotiation strategies for executive leaders in regular contact with (i) senior decision makers (Heads of State, Parliaments etc) and (ii) intra-organizational subordinates. Decision-support tools in order to prioritize water on the national agenda and to balance competition for the resource among sectors in the short and long term.

2. **Water Resources Planning and Management under Future Uncertainties**

Adapting to and re-prioritizing water resources planning initiatives in response to future uncertainties. Creation of a culture in which implementation of new technologies and institutional and policy changes is embraced.

3. **Water for Agriculture and the Environment - Environmental Services**

Enable decision makers to link integrated basin management across sectors in order to most efficiently utilize the resource to promote agricultural and environmental sustainability.

4. **Transboundary Surface and Groundwater**

Develop effective negotiations and communications techniques for "Water Diplomacy" and "Benefits Sharing" as a means to influence internal and external decision makers, and explore costs/benefits that result from sharing inter and intra-regional water resources.

5. **Water Financing and Economics**

Explore/apply efficient and successful management strategies, including appropriate tariffs and incentives for water allocation and capital allocation, public-private participation, budgeting and planning as principal components of financial management.

6. **Water Governance, Policy and Regulation**

Diagnosis of current governance, regulatory and policy status, identification of obstacles and exploration of regional lessons learned and case studies on how potential problems might be mitigated.

7. **Water technology innovation for the Arab region**

Review design and implementation standards and build intra-regional bridges towards water technology creation, while integrating science, technology and industry.

Water Leadership

Challenges for Tomorrow's Executives

Prof Peter Rogers

Professor of Environmental Engineering and City Planning, Harvard University, rogers@seas.harvard.edu



The Arab region has very low rainfall, and many of its parts have large unpredictable rainfall variations from year to year leading to major droughts and floods. It is the most water scarce region of the world. Until now the rising demand for water from Arab populations, which are growing at an average of about 2.3% a year, has been met primarily by

investments to increase the supplies of water available to cities and especially to agriculture. Water availability has been increased by building dams on watercourses, drilling and pumping for the underground water, desalination, and other applications of technology. Given the rates of population and income growth the per capita availability of water could fall by 50% by 2050.

The era of finding new water and developing the larger supplies at moderate cost is ending. No large rivers and natural lakes originate within the Arab region itself. Within the Arab countries, most of the possible water resources have already been developed, and are now producing for human use virtually all the water that can be drawn from them. Many ancient deep aquifers are being mined, meaning that the present population of the region is taking waters that cannot be replaced for their descendants. Desalination is increasingly being used, but so far it has produced limited quantities of water at relatively high cost. Reallocation of water among users and between countries is extremely difficult to arrange. Broadly we can conclude, that new and increased water supplies are going to be hard to find, and new water cannot be relied upon to make up large-scale insufficiencies, as it often has in the past.

Two general responses to these conclusions are suggested. First, the need to give a more balanced attention to both demand management and supply augmentation, and second, water development and water allocation must be more purposeful, conscious and calculated.

The Arab Region

The region is not homogeneous with respect to climate, water resources, and levels of social and economic development. In 2007 an extremely comprehensive view of water development in the Arab region was produced by the World Bank: *Making the*

Most of Scarcity. According to the report (p. 7) the countries of the region fall into three distinct types based upon their water situation:

Variability. This group of countries have adequate quantities of renewable fresh water, but with spatial and temporal variation of the resource among different parts of the country. Examples include Algeria, Djibouti, Lebanon, Morocco, Palestine and Tunisia. For these countries a major concern is the internal distribution of the resource.

Hyper-aridity. This group experiences low levels of renewable water resources and depends heavily on non-renewable groundwater and desalination of seawater or brackish water. Countries in this group include Bahrain, Jordan, Kuwait, Libya, Oman, Qatar, Saudi Arabia, the UAE and Yemen.

Transboundary water. The region as a whole has the world's highest dependency on international water bodies with as much as two thirds of its renewable water supply coming from outside the region. The major countries in this group are Egypt, Iraq and Syria.

This categorization shows the heterogeneity of the countries within the region and the futility of providing one set of policy recommendations for the region as a whole. Only recently have we begun to think about regions rather than tribes, provinces or nations. The societies in countries comprising what we now think of as the Arab region individually developed elaborate institutions and technologies over many millennia to deal successfully with problems of water supply and development and we are now trying to put these institutions and technologies into a modern nation-state context. However, the current rapid rates of change negate the slow evolutionary development of the historic processes.

Challenges for Tomorrow's Executives

Predicting technical change into the future is always subject to great uncertainties, but predicting social and political change is well impossible. Nevertheless, we are certain that the challenges faced by water executives dealing with water in the Arab world must fit under three major headings.

Ensuring the supply: The limited water supplies in the Arab region are highly variable and subject to great uncertainty. Unfortunately, the uncertainty of the available supplies is likely to be greatly exaggerated by

climate change. For this region, the future supplies (after 2050) are generally assumed to decrease on average and may become more variable. However, at the present we do not have any reasonable estimates of trends in magnitude and variability. One irony is that the less water a country has now, the less likely that its supplies would be seriously compromised. These countries have typically already moved to reduction of uncertainty by relying more heavily on desalination, or by building flexibility in their supply of water to non-urban and industrial water users. Unfortunately, the several models used by the Inter-governmental Panel on Climate Change (IPCC) of the World Meteorological Organization (WMO) for predicting precipitation are not consistent with each other, and indeed conflict not only in magnitude, but also sign of the precipitation changes expected. Given this level of uncertainty, at present the best one can do is use our best guesses and rely on planning for flexibility and redundancy in the supply.

Managing the demand: For water appears at first blush to be a simple economic activity; however, given the nature of the social and environmental context of water use, it is no longer simple. Textbook economics will call for "getting the prices right". But, getting the prices right in the presence of large ecosystem externalities and other social and political factors of market failure is a very complex socio-politico-economic problem. Moreover, the tools and the techniques available for demand management depend heavily upon the availability and the nature of the institutions that would implement the demand management instruments.

Institutional setting: All major water studies for the region have stressed the need for strengthening the institutions dealing with water management. If it is so important why have the relevant governments not seized upon this, interest groups, etc? Some important progress on institutions has been made over the past 20 years, but the pace of reform has been slow because of political factors including lack of accountability to the public at large and the rewarding of special interest groups. Institutional development is highly interconnected with the manipulation of markets and other economic issues such as subsidies.

The way to the future

In providing guidance to the executives, the following points have to be taken into consideration. The first recommendations relate to the fact that the major policy impacts on the water sector are likely to come from non-water policies and institutions. Hence, the executives pay great attention to the following issues that will form the overall enabling environment for the water sector. These are more or less in line with the World Bank's 2007 report.

For non-water sector analysis, we should:

- Remember that all water decisions are political, there is no purely technical decision.
- Evaluate the level and efficiency of public expenditures on water.
- Define goals for public spending and cost recovery.
- Establish accountability mechanisms.
- Assess the impact on water of policy choices in other sectors.
- Calculate the social costs of the status quo.

For water sector institutions, the policies should:

- Create a flexible allocation system.
- Clarify roles and responsibilities of different actors.
- Collect and release information.
- Improve capacity of water planning.
- Explore the full ramifications of virtual water.

Finally, in all countries in the region, there is a pressing need for the intellectual forces to become in action research on the issue of water sustainability.



"Moving from water scarcity to water security is probably the most pressing challenge facing most of the Arab countries. The role of the Arab Water Academy aims to bridge this deficiency through "capacity building" and "awareness raising" interventions to the identified target group, thus strengthening the political will towards water issues." **Dr Mohamed I. Al-Hamdi, Deputy Minister, Ministry of Water and Environment, Yemen**

"The launch of the AWA is an important step towards improving water management in the Arab region. The focus on professionals already in operation at a senior level, as well as the aim to create new 'water leaders' for the region, is very much welcome. The discussions and intellectual exchanges during the launch workshop were of high quality and it will be interesting to see the next steps of the academy."

Dr Anders Jägerskog, Project Director, Stockholm International Water Institute (SIWI), Sweden



"Arab countries probably have the longest experience of water resources management. They also face some of the severest scarcity, and are most threatened by likely impacts of climate change. Their rivers are also substantially dependent on external sources. The Arab Water Academy can provide a forum for the exchange of ideas and experience among the countries of the Arab world."

Dr Chris Perry, Consultant Water Resources Economist, UK

What is the Arab Water Academy?

The Arab Water Academy is a specialized institute established to articulate, design and implement new training initiatives to enhance capacity building in the water sector. The Academy is a significant investment in the human capital of decision makers, professionals and scientists working in the water sector and associated fields.

By providing a venue for the implementation of world-class training programs in an atmosphere of academic excellence, the Academy builds the capacity of the water management and planning sectors throughout the Arab region and beyond.

How was the Academy established?

The Academy is the brainchild of the Cairo-based Arab Water Council (AWC). Recognizing the need for new approaches in learning and knowledge sharing within the water sector of the Arab region, the Council's governing body and specialized committees worked hard and long to set up the Academy.

Assisting the Council in this strategic endeavour were the two institutions selected to host the Academy. One of these was the International Center for Biosaline Agriculture (ICBA), which made a successful bid to AWC to host the Academy with support from the Environment Agency - Abu Dhabi (EAD), an agency of the Emirate of Abu Dhabi. ICBA, which helps water-scarce countries improve the productivity, social equity and environmental sustainability of water use, places special emphasis on saline and marginal quality water within the context of integrated water resource management (IWRM).

In order to establish an innovative program in water management training and field application, another important partner was needed. This was Environment Agency - Abu Dhabi (EAD), an arm of the government of the Emirate of Abu Dhabi. EAD's expertise in water and environmental issues was an important consideration when selecting a suitable venue for the Academy, which is located in Abu Dhabi city.

The Academy, formally created in December 2007 during the third meeting of the AWC in Dubai, UAE, became operational in 2008. Initial financial support for the Academy was provided by both EAD and the World Bank. However, it is expected that many regional and international donors will provide additional support in the years to come.

What is its mission?

The Academy addresses the daunting challenges posed by the deteriorating water supply throughout the

Middle East and North Africa (MENA) region with a two-pronged approach:

- Enhance human capacity for water strategies and policies related to integrated water resource management beyond conventional education and training provided by other institutions.
- Support active implementation of the learning process so that water management in the Arab world can better meet the needs of societies.

Where is it located?

The Academy is hosted by EAD at its headquarters in Abu Dhabi. Logistical and technical support are available from ICBA, which maintains an office in Abu Dhabi as well as its headquarters in Dubai.

Importantly, many of the Academy's training modules will be conducted in various Arab countries in addition to the UAE. Although the Academy focuses on delivering its products and services to the Arab region first and foremost, it may gradually expand its scope to include other regions of the world.

How is the learning program organized?

The work program of the Academy consists of intensive professional and innovative learning modules of 1- or 2-week duration with follow-up in the form of continuous learning modules through virtual knowledge communities. More specifically, the learning program includes eight options to meet a range of learning needs.

- Intensive, short-term professional courses using the business school model. This approach will allow for in-depth analysis of salient institutional and technical issues within the case study framework.
- Internships: learn-by-doing mode working with scientists (2-6 months).
- Affiliations with universities provide opportunities for students to conduct graduate field research on strategic issues. These include studies leading to an MBA degree in water management, understanding the political economy of water management and sharing findings of case studies with university faculties and students.
- Real-time interactive knowledge-sharing events using modern IT and e-tools.
- Virtual knowledge communities that address strategic issues affecting the sector, including regional concern and cross-boundary water management.

- On-demand change management and coaching services.
- A virtual market place for new knowledge and expertise through an internet-based system and strong links with regional and national water centres.
- Partnerships with regional radio and television to use unutilized broadcasting channels for the transmission of knowledge to broader audiences in societies through 'edu-training' programs (ie, talk shows, games, competitions and the like).

The Academy's learning program is decentralized according to topics, facilities, training expertise, logistics and interests through strong partnerships with universities and specialized national water programs in coordination with national and regional research and training institutes. A networking approach will facilitate this decentralization and promote regional interchanges of knowledge and expertise.

What are the challenges it faces?

Despite significant diversity of landscape and climate, few of the region's countries can meet current water demand. Thus, as both the region's economies and its population structures undergo change over the next few decades, demand for water supply and irrigation services will change accordingly, as will the need to address industrial and urban use.

Additionally, some 60% of the region's water flows across international borders, necessitating careful cross-border policy analysis.

These challenges facing the water sector necessitate the establishment of modern, interdisciplinary learning programs aimed at building human capacity in the region. The Arab Water Academy has become a reality in order to effectively deal with these issues.

These challenges include understanding the changing trends in water supply (both quality and quantity), dealing with growing urban populations, meeting the need for increased accountability, protecting the environment and monitoring the shifting roles of agriculture and rural development in national economies.

Who does it work with?

The Academy works in close partnership with professionals from various Arab countries. The implementation of the learning program will be the responsibility of the executive management of AWA. An Executive Committee and the Board of the AWA will oversee the activities of the Academy.

Academy Partners

Arab Water Council (AWC)

Arab leaders, facing the increasingly serious challenges in the area of water at the beginning of the 21st century, came together in Cairo in April 2004. Nearly 400 experts representing 17 Arab countries and several regional and international institutions, universities and research institutions, as well as representatives from the private sector and civil society participated. The end result was the Arab Water Council, a non-profit organization established to activate and empower the concept of integrated water resources management for achieving food and water security.



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Environment Agency-Abu Dhabi (EAD)



EAD is a governmental agency established in 1996 with the overall function of protecting and conserving the environment as well as promoting sustainable development in the Emirate of Abu Dhabi. The Agency is responsible for assisting the Federal Environmental Agency (FEA) and the UAE Ministry of Environment and Water in implementing environmental laws and putting forth regulation orders in the capital. Every year, the Agency sets increasingly ambitious goals for itself to achieve the best possible results for the environment. EAD strives to provide a cleaner and healthier environment for the inhabitants of the Emirate.

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International Center for Biosaline Agriculture (ICBA)

ICBA helps water-scarce countries improve the productivity, social equity and environmental sustainability of water use through an integrated water resource systems approach, with special emphasis on saline and marginal quality water. ICBA demonstrates the value of water resources for the production of economically useful plants and transfers the results of its research to national research services and communities.



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