NEWSLETTER
Thursday Jun 1st

XVI World Water Congress
International Water Resources Association (IWRA)
Cancun, Quintana Roo, Mexico. May 29 - June 3 , 2017

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Integrated Water Resources Management

The purpose of this high-level session was to highlight the place of Integrated Water Resources Management (IWRM) in the 2030 Agenda for Sustainable Development by revitalizing the concept of IWRM. The goal is to deliver results that are accounted in the SDGs and lives across the globe with scale and speed. With political and community stakeholder engagement as well as proper data acquisition and sharing, it is possible for IWRM to provide an over-arching planning and management framework for the SDGs.

The session began with remarks from the Director of the IUCN Global Water Programme on the evolution of IWRM and featured four new strategies. These include:

1. High-level policy and strategy setting to put in place agreed high-level policies and goals;
2. Pragmatic problem solving that complement strategy setting to meet stakeholder priorities at all levels;
3. Operating mechanisms that bridge strategy setting and problem solving, focusing on action;
4. Monitoring of progress, goals, and targets by using data tools for transparency, trust, and accountability.

Other key concepts from the opening remarks included the need to think about IWRM beyond the basin scale with a scope that can encompass other models and national issues. Torkil Jonch Clauson, moderator of the session, continued the dialogue by allowing panelists to share the successes and potential paths forward in implementing IWRM across the globe. Brazil was highlighted as a steward of using IWRM concepts in the face of drought, while the Itaipu Dam could serve as an IWRM turnkey to good transboundary water governance.

A highlight of the dialogue was recognition of the need to adapt the current framework in order to successfully achieve the goals. There needs to be an effective strategy to dynamically catalyze and manage change at all levels and to operate mechanisms that bridge strategy setting and problem solving. This strategy needs to be paired with robust education and outreach efforts that integrate not only civil society but the political class as well. Water practitioners also need to rethink IWRM across disciplines and scale by thinking of the SDGs each as a system connected with other disciplines such as water, food, energy, and health.

The concluding remarks called for the need to have meaningful data in the scope of IWRM for proper implementation and to work on communication to get policymakers to make science-guided decisions. Good progress in IWRM development will come in time for the 2030 Agenda for Sustainable Development.

PROGRAM

Thursday Jun 1st

Hours	Salon Gran Cancun	Cozumel 1	Cozumel 2	Cozumel 3	Cozumel 4	Cozumel 5	Xcaret	Salón Mujeres	Coba
9:00 - 10:30		RS-16. Water Ecosystems and Physical Regimes	SS-58(A): Training in Hydro-diplomacy: Legal and Institutional Aspects of Water Resources Governance – From the International to the Domestic Perspective	RS-27. Water Policy and Governance: Law	SS-72: Cooperation and Exchange of Experience in Water Resource Management and Adaption to Climate Change	SS-33(A): Resilience of coastal watersheds in Latin America and the Caribbean	SS-54: Water Futures and Solutions	RS-33. Water Quality: Managing Contamination	
10:50 - 12:20		RS-31. Water Quality Management	SS-58(B): Training in Hydro-diplomacy: Legal and Institutional Aspects of Water Resources Governance – From the International to the Domestic Perspective	RS-25. Water Policy and Governance: Integrated Water Management	SS-43: Hydropower Development and Reservoir Operation	SS-33(B): Resilience of coastal watersheds in Latin America and the Caribbean	SS-36: Water stress and demographic dynamics	RS-15. Water Ecosystems and Physical Regimes	
12:40 - 14:10	HLP: From WEF Nexus to WEF+Health +Education Nexus								
Lunch*									
15:30 - 17:00	IWRA Awards								
17:20 - 18:50		SS-74: Getting to a Water Security Framework: Breaking it Down to Build it Up	SS-52: Offshore Aquifers – Why Should We Care ?	RS-22. Water Ecosystems and Physical Regimes: Groundwater Resources	SS-8: Charges vs. buyback: who pays for water ecosystems restoration?	SS-64: Towards an Integrated Water Management by Sub-basin: Mainstream-ing of Science and Policy	SS-38: Water security issues for developing countries in changing environment	RS-28. Water Policy and Governance: Law	

The dress code for the gala is business casual. Keep in mind that the event is held at the Mandala Beach Club and will be outside under a canopy on the beach.

Towards a Green Infrastructure in Latin America and the Caribbean

This session highlighted the importance of green infrastructure in Latin America.

Latin America holds an abundance of water resources, but faces challenges in its water infrastructure functionality. Green infrastructure can complement conventional gray infrastructure to increase functionality and adapt to the effects of climate change. In addition, Latin American countries need to address a number of management issues, including effective land-use planning, better inventories of water resources, water management by basin, and risk management against natural disasters.

In order to better implement green infrastructure, Latin American countries need to build alliances with international organizations to gain access to scientific data and knowledge. Effective communication between nations is key to successful green infrastructure projects. In addition, policy makers should gain more financial support from major water users, increase civil society participation, and build a stronger water culture in order to achieve rational and efficient water use.

The nexus between food, energy, and water was also discussed at the session. This nexus affects all aspects of society, including politics, economics, and health. In addition, good ecological practices are important to manage resources. A key idea espoused at the session was that good ecology is good business because good ecological practices can improve ecotourism and maintain ecosystem services.

Suzanne Ozment , of the World Resources Institute (WRI), explained WRI's goals and interests related to green infrastructure. WRI is interested in green infrastructure because it can improve water quality, regulate hydrologic cycles, mitigate flow variance, reduce erosion, improve energy security, preserve biodiversity, protect coastlines, and sustain livelihoods.

Achieving Water and Sanitation SDGs in Latin America and the Caribbean

Technology can be a catalyst for delivering information directly to decision makers to bring stakeholders together. Good progress has been made in Latin America and the Caribbean.. However, different generations still face the same problems on water services and sanitation. In the region, many people still need to travel and carry water because there is not a delivery mechanism in place.

These issues can only be resolved by strengthening water governance and modernizing the water framework for data collection, analysis, and dissemination. Many efforts have been made from the national to international level. Internationally, UNESCO has been developing WINS (Water Information Networking System)—a technology to support decision makers and major stakeholders. This system is a key tool in the implementation and monitoring IHP VIII activities. The main objectives are to eradicate poverty and improve data collection. The system is gratis, and it has diplomatic immunity. All data will be available in agreement with the government, which makes it available at the local, regional, and international levels.

Water education for stakeholders, including civil society, and decision makers, will be instrumental in building capacity to implement SDG 6. The citizen forum has been a platform for stakeholders to engage in a ongoing dialogue online.

Multi-disciplinary perspectives on the Grand Ethiopian Renaissance Dam (GERD) and the future of water resources management and development in the Eastern Nile Basin

The Grand Ethiopian Renaissance Dam (GERD) is located on the Blue Nile River in Ethiopia, and once completed will be the largest hydroelectric dam in Africa—the seventh largest in the world. While the project will provide a significant source of energy to Ethiopia, downstream countries have raised concerns as to how the dam will impact their use of water from the Nile River. Egypt, a country which relies heavily on the waters of the Nile, has in the past requested that Ethiopia cease the construction of the dam. In response, Ethiopia has denied that negative impacts would occur in Egypt upon completion of GERD. Despite this request and other countries' concerns, the completion of GERD is soon expected to happen in 2017. While providing a solution that fully satisfies all parties and special needs was considered in the discussion as "not feasible", the focus of this special session aimed to address limiting risks, the duty of negotiating in good faith, and the need to develop trust aring data amongst the involved parties. While transboundary issues are mainly addressed from legal frameworks, the significance of this special session was its presentation of science on reservoir development and hydrological flow models: providing a fundamental component to inform policy on the risks issues associated with GERD—the perfect bridge between science and policy.

The first session highlighted the legal framework involved in the history of the dam, as well as future policy principles in addressing issues of the GERD. Salman Salman reported that the Nile Basin Cooperative Framework Agreement (CFA) has been signed by six key countries that the Nile impacts, and that future work of the CFA should aim to develop equality within all Nile states. Seray Yihdego emphasized the importance for future cooperation among states to negotiate in 'good faith', or to seek the benefits of its downstream users as well.

The second session discussed scientific principles for application in risk management as well as identifying action items for cooperation. Researcher Kevin Wheeler presented key findings on reservoir development for multiple countries that are possible with GERD. Furthermore, his perspective was pertinent to the conversation in offering that cooperation of GERD issues must shift to 'risk-based' thinking. While risk is an obvious factor when developing such a large infrastructure, the key question that needs to be addressed is - What is an acceptable amount of risk? Panelists affirmed that addressing significant risk or harm was of greatest concern of this transboundary issue. Dr. Baimu Richard Paisley called for a need for sharing data and information agreements amongst Nile countries.

The engagement of conversation amongst speakers, panelists and the audience bookmarked this session as a think tank for action items in addressing issues associated with the Grand Ethiopian Renaissance Dam.

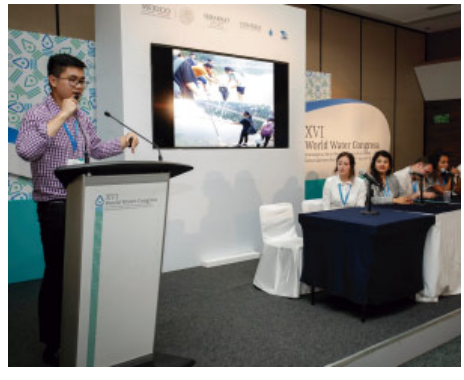
Two Countries, Nine States: Colorado River Cooperation in a Complex System: Cozumel 5 15:30

Twelve million inhabitants along the U.S. - Mexico border are reliant on shared water resources. Management is vital across borders to ensure human health, economic development, and environmental sustainability. Within this area, the Colorado River not only offers a spectacular management challenge by crossing nine states and two countries, but also a stunning example of successful binational cooperation. During this special panel, high-level policy makers from both countries gathered to talk about the success of Minute 319 under the 1944 Water Treaty and the ongoing negotiation of Minute 32X for the joint management of the Colorado River Delta.

This incredible feat of binational cooperation has been evolving since 2000, when IBWC/CILA first committed to studying the negative impacts on the environment. Panelists described the evolution of this cooperative effort by highlighting all that has been accomplished since the implementation of Minute 319. This agreement created a joint management structure, allowing for more flexible storage of water allocations and timing of pulse flows. As a result, both countries built in strategic drought contingency planning, which has heightened resilience to water stress, while also allocating water for the Colorado River Delta. Most notably, this is the first global example of two countries agreeing to allocate shared water for the environment.

Empowering Young Water Professionals through Engagement in Global Water Community

An important discussion in this Congress centered around the role of youth in global water resources discussions. It emphasized that the involvement of young professionals is crucial in developing sustainable water policies. Muhammad Wasif Bashir Babar, the advisor of the Pakistan chapter for youth, stated that water is the most important component of all SDGs and that he believes young professionals have the enthusiasm and energy to contribute to these SDGs. Networks of youth should be further developed, and indeed, Alice Colson provided an announcement of IWRA´s forthcoming Young Professional Chapter. To provide evidence of youth's important involvement, four young professionals shared their experiences and work on water related issues such as climate change, community based water quality monitoring and the Water Youth Network. An example of a youth project is the "YouKNoW" platform, which was established to bring young people working on similar projects in different parts of the world together and give them the chance to exchange ideas. It was encouraged that young people join the process and help provide creative solutions for water problems, including fresh perspectives in the upcoming World Water Forum.



Water Security and Global-change Adaptation: Bridging Science and Policy

Global climate change affects the Americas unevenly. This double session explored different approaches in 6 countries across the American continents, as well as England, to address threats to water security caused by climate change.

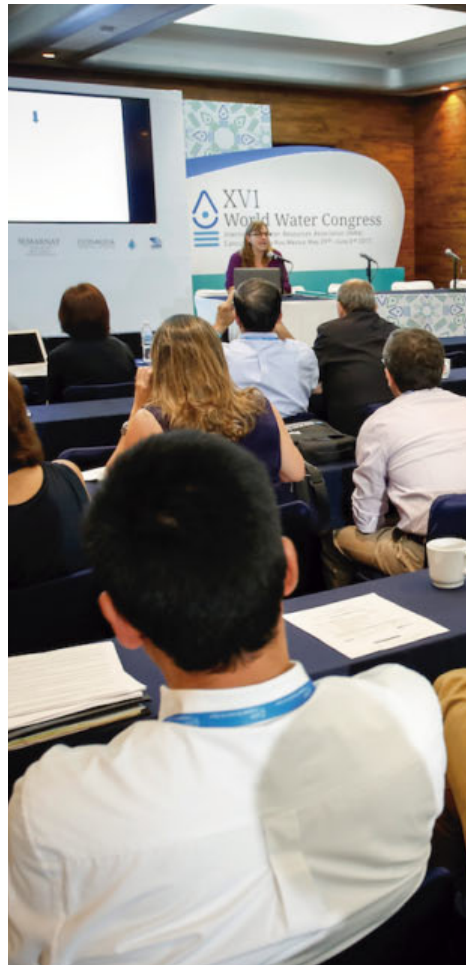
With respect to agriculture, arid areas of the Americas will be subject to decrements to annual rainfall between 10 to 30% depending on temperature increases and changes to inflows and the seasons. These factors will affect hydrogeological models and crop yields.

On urban water, challenges arise from growing demand and the threat of rising inequality if important actions are not taken to implement green infrastructure. Successful case studies were discussed to demonstrate how institutions could improve their performance regarding wastewater treatment, desalination, rainwater harvesting, and drought monitoring.

This double session shared great insights on multidisciplinary work in terms of securing the water resources and what actions can be done in different places in arid regions of the Americas. The experts shared important lessons they learned from various projects despite the success of those projects' implementation.

Case studies in Sonora, Mexico, Mendoza, Argentina, the Central Valley of Chile, Northeast Brazil, Peru, and the U.S. states of California and Arizona showed how to address challenges to implementing technology. In addition, active participation and involvement from linked research institutions can help overcome existing problems that will be exacerbated by climate change. Valuable examples of bridging science and policy in arid America were presented. Inclusive work from the academic sector along with policy makers and stakeholders can make a difference and provide insightful examples for interdisciplinary work.

An important lesson learned from this session was that water security is threatened by inaction, especially from inflexible institutions and obsolete legislation.



Water Policy and Governance: Transboundary Aquifers on the Mexico-US Border

Three key messages arose from the morning session on transboundary aquifers on the Mexico-US Border as it relates to water policy and government.

Trust. Before nations can manage transboundary aquifers, there must be transparent communication between all parties and more importantly, the parties must trust one another for the communication to be effective. This is applicable to all transboundary aquifers worldwide, but it is extremely crucial in regards to the relationship between the United States and Mexico following the latest United States presidential election.

Accessible Information. It is clear that more information on aquifer health and water use is necessary. However, disseminating the information to the public and policy makers is just as crucial as gathering the information. This will not only allow policy makers to create policy that reflects accurate science, but it also provides information to the public creating an environment where the people can become individually invested in aquifer management and health.

Bring Stakeholders Together. To build trust and make information accessible we must bring all stakeholders together. Stakeholders include more than scientists and more than just the United States and Mexico. Local communities have a stake in the outcome of transboundary aquifer management, which means they need to be represented at the table. Water is primarily a local resource and in Mexico, there is a human right to water which suggests local utility owners need to be at the table with policy makers, scientists, and lawyers. Unfortunately, many panelists have agreed that it will take a serious crisis to bring everyone together to discuss a solution.

Water Policy and Governance: Economics of Water Governance

it Water projects in Peru, Brazil, Australia, Spain and Chile explored aspects of water markets and their strengths and challenges. In Peru, the Pipiripau Project works with water producers, using Payments for Ecosystem Services (PES), to reduce water conflicts, with the overarching goal of meeting the needs of water and food in the region. It has been shown to achieve increases in water quality and quantity and soil conservation.

It was established that it is important to consider trade in water security around the world, and as such, virtual water in international water markets needs to be addressed. A study in Brazil examined Free Trade Agreements (FTA) to determine if water is being discussed in international trade, and agreements do indeed consider water in some capacity. Various terms, such as "agriculture" and "energy" were found to be statistically linked with water in these agreements, expressing the nexus between water, food and energy.

Transaction costs, in relation to water were another interesting topic addressed in this session, specifically to a case in the Murray-Darling basin in Australia. It provided evidence that there is a downward trend in transaction costs over time, suggesting flexible arrangements of these costs in the basin. Further examination of transaction costs could be very useful for policy evaluation in the future.

To finish off this session on economics in water governance, the water conflicts in Chile were explored. These conflicts stem from water scarcity and large scale copper production. The cost of water pumping is increasing and solar mining has been proposed as a response to this issue. Other potential options include trade, hydroelectricity, storage systems and other renewables were discussed; however each has its own limitations.

Clive Lipchin

Director of the center for transboundary water management at Arava Institute

Off-grid programs help promote efficient treatment of wastewater so that it can be locally reused in rural communities.

What is the best way to begin implementing off-grid programs in refugee camps?

The best way to begin implementing an off-grid program would be to find an 'Entry Point' by speaking with the controlling agencies and showing policy makers that the program will be suitable in their specific jurisdictions.

How can we find an "entry point"?

In order to do this, it is important to have well-documented case studies that effectively quantify costs and sustainability—you must show experience and expertise. This communication bridges the science behind the off-grid programs with the policy makers, enabling water conservation in the areas that need it the most.

"It is very important to get the communities within the refugee camps involved and in support of the program. They have to appreciate the opportunities that off-grid programs can provide to them. At the end of the day, the community is the biggest champion of the process.

How can communities practice cooperation over transboundary wastewater in Palestine and Israel?

The reality is that Palestinians and Israelis are in conflict. Furthermore, Palestinian and Israeli communities do not really interact with each other. Interestingly, wastewater is an issue we can use as a bridge. Without effectively treating wastewater, everyone is losing. The Palestinians and Israelis may have a lot of differences, but treating wastewater is an issue that can bring the people together in order to improve the current transboundary wastewater issue in the region.

Jennifer McKay

Professor University of South Australia School of Law

Reflecting on Regulating Water Security for Unconventional Gas and Oil.

What is the best way to protect water resources while still allowing hydraulic fracturing?

"The best way is to have a regional water plan that is legally enforceable and addresses point source environmental pollution. It is really back to the 70's in a way. That makes it easier to regulate, because these chemicals are toxic and easy to find. Some of them are, and some of them might not be, but on the balance of probabilities, you should be able to ultimately attach liability. So the best way is to have a regional water plan that has police powers and standards for the wells. There are international standards for well casing and they need to be policed and enforced. These companies will not have enough money to pay for the damages anyway, and [so money] is not the solution anymore. The solution is for them to not make the mistake. Hundreds of industries work that way. It is possible to gain a higher standard if you are going to allow [hydraulic fracturing], which is what you need."

Are the reactions from local communities missing the mark on water resources as it relates to fracking?

"No, what we are seeing is community activism in Australia, and in the US too in parts of California. But in Australia, we are seeing very unusual people getting in bed together. [For example], farmers and environmentalists are united. The epistemic communities who normally do not cooperate are cooperating against this mining. That is a good thing, as long as you are in a democracy."

What are some of the legal unknowns with water and fracking?

"You can't sue [violators]. Even if they cause damage, no one will have enough money to remediate. You potentially destroy an aquifer and a whole farming community for 100 years, or whatever the half-life of these chemicals are, which is probably more than that. It is a very serious business and we would be using the precautionary principle, because we are not sure [of the risks]. We should be saying, ok we don't do it because we are not sure."