

Texas A&M University was represented at the 8th World Water Forum, Brasilia (March 17-23, 2018), by Prof. Rabi H. Mohtar, Bassel Daher, and Lindsey Aldaco-Manner (Ph.D. Candidate and MSc Student in Water Management and Hydrologic Sciences, respectively). The primary event, for which Texas A&M WEF Nexus Initiative was a lead organizer, (I. High Level Panel) and the additional activities in which the Texas A&M team participated are described below, and include:

- I. **Special Session** *Multi-stakeholder Dialogue: Water-Energy-Food (WEF) Nexus and SDGs Implementation Supporting policy coherence efforts in achieving the sustainable development goal efforts and implementation* (page 1)
- II. **Special Session** *Science-Policy Dialogue: Key to Solving Global Water Challenges and Support Decision Making* (page 4)
- III. **High Level Panel - Regional Session** *Water related SDGs in crises prone regions: turning reconstruction into sustainable development* (page 4)
- IV. **High Level Panel - Regional Session** *Sustainability Challenges Need Integrated Solutions: is water, energy, food the answer?*(page 5)
- V. **Special Session** *Optimizing the water-energy production value chain* (page 7)
- VI. **Youth workshop** *Citizen's Forum at WWF8: the Role of Youth in Leading SDG 6* (page 7)
- VII. **World Youth Parliament** *Global Network for Youth Action on Water, including “The Road to Dakar – planning for WWF9” and the WWF Special Session: Influence of Science on Policy and Decision Making* (page 8)

I. Special Session Multi-stakeholder Dialogue: Water-Energy-Food (WEF) Nexus and SDGs Implementation Supporting policy coherence efforts in achieving the sustainable development goal efforts and implementation



Figure 1. Consortium Partners in the HLP

Session Description: The session complemented and built upon other, previous events to provide the opportunity for stakeholders beyond the water sector to engage in dialogue and address topics that cut across the multiple themes of the Brasilia forum and addressing: water for energy, water for food, governance, financing, and communication. The lessons learned from the case studies presented at the session and throughout the Forum highlight the need for coherent, cross-sectoral policies that address and achieve the closely related SDGs and the WEF Nexus challenges they address. Stakeholder diversity and the cross-cutting topics discussed helped facilitate a broader dialogue: one that extends beyond the scope of any single session. The session included discussion and examples of the use of the tools of science and dialogue in pursuit of the implementation of SDGs. Building upon the strong policy

messages and the momentum established with a growing coalition of global partners in [Stockholm \(2016\)](#) and [Cancun \(2017\)](#), this session linked to the theme of *Development* (Water for Sustainable Development), and to the subthemes of *water for food* and *water for energy*. A primary objective of the coalition is to provide a policy brief to the High Level Political Forum, in July 2018, including a list of recommendations for moving forward with the implementation of the Sustainable Development Goals. Relevant materials and a copy of the session presentation are available at the current [website](#).



Figure 2: Major Coalition Milestones

Session objectives:

- 1) **Share** WEF Nexus *lessons learned across scales and sectors* toward implementation of the SDGs;
- 2) **Facilitate** dialogue about *the role of WEF Nexus in SDGs implementation* between stakeholders (funding agencies, banks, academics, private and public sectors, technology providers, entrepreneurs and civil society);
- 3) **Discuss** ways to *improve policy coherence across WEF sectors and scales*.

Key Questions in the facilitated audience engagement dialogue between stakeholders addressed the *role of WEF Nexus in implementing the SDGs*

- 1) *How might scientific tools, technology (particularly information and communication technologies), data, and case studies contribute coherence to WEF systems and SDGs implementation?*
- 2) *What policies or incentives best promote the implementation of SDGs in the context of WEF systems?*
- 3) *What are successful, cross-scale governance / technological lessons learned in WEF nexus implementation?*
- 4) *How can we communicate the complexities of the WEF systems and share positive messaging while maintaining momentum toward change for a sustainable future?*
- 5) *How do we maintain the integrity of human rights issues in the context of WEF systems solutions?*
- 6) *How can we better promote / coordinate opportunities across sectors and scales?*

Mohtar (TAMU, AUB, OCP) framed the session and introduced the Keynote speaker, Kelman (SABESP) set the stage for the panel discussions that highlighted various examples of the water-energy-food nexus from different experiences from across the world. Panelists, representing different sectors and regions globally, included Claudia Sadoff (IWMI), Claude Nahon (EDF Group), Gustavo Fonseca (GEF), Jean Comby (ESF). An “empty chair,” identified as “Amina,” represented the voices of stakeholders unable to join the discussion, and panel members endeavored to answer on her behalf, the questions posed.



Figure 3. Panelists (l to r) Amina, Mohtar, Comby, Fonseca, Nahon, Sadoff, Kelman

The debate focused on two perspectives: **water centric**, presented by Patrick Lavarde (IWRA) and Thadeu Abicalil (WorldBank); and the “nexus centric” perspective by Sarah Davidson (WWF). The audience used red and blue cards (representing a vote in favor of “water centric” or “nexus centric” respectively) to vote before and then following the debate for the perspective to which they subscribe.

-  **Water Centric:** "Current and future resource allocation challenges are water allocation challenges at their core, and should be addressed from within the water sector"
-  **Nexus Centric:** "Linear and silo-ed resource allocation strategies challenge progress toward achieving the Sustainable Development Goals"

Highlights of the debate: The nexus adds complexity to water management, on the other hand, water management is already complex: creative solutions are needed. The nexus offers a different way of thinking. While engaging with multiple sectors requires both time and resources, a multi-sectoral approach offers long term sustainability and can improve efficiencies. Water flows through everything, impacting the resources across sectors: acknowledging and working with this reality facilitates better management. There are multiple ways to bridge sectors, including education, political persuasion, and conflict resolution: the nexus offers a means for inclusiveness. The SDGs promote this interconnectedness, and the nexus is a useful reminder to connect between ministries at the national level to ensure the right people and units are managing the resources toward achieving all SDGs.

The voting showed a higher number for “nexus” perspective supporters in the pre-debate vote than after the debate was over. Many members of the audience appeared to shift perspective, sympathizing with the barriers highlighted by the panelists including institutional, human resource, and time challenges which make working across disciplines more challenging.



Figure 4. Participants voting (pink = water centric, blue = nexus centric)

Pre and Post Session Reflections for the Nexus Community

- The importance of moving beyond silo-ed planning toward more integrative planning must be better communicated.
- Barriers that exist at the institutional level challenge those who work within a single sector. Serious effort needs to be focused on better understanding and overcoming those barriers.
- Improved levels of communication and coordination between institutions contribute to better integrative planning.
- The Water-Energy-Food Nexus serves as platform for identifying and quantifying synergies and competition across goals, which could be adopted while implementing SDGs 2, 6, and 7, but also goes beyond that to include the broader list of SDGs.

Next Steps

- **Policy Brief** summarizing key policy messages and recommendations from the session to the High Level Political Forum on Sustainable Development in July 2018.
- **Coalition Website:** Keep track of key milestones and summaries for the activities of the growing coalition of partners. This website will continue to include links to case studies and relevant publications from partners on the topic wefnexusgroup.org/wwf8

II. Science-Policy Dialogue: Key to Solving Global Water Challenges and Support Decision Making

Host - Dominique Darmendrail, Coordinator Water JPI; *Moderator* - Henk Ovink, Special Envoy of Water of the Kingdom of the Netherlands and Sherpa of the UN High Level Group on Water; *Keynote Speaker* - **Rabi Mohtar, Texas A&M University** and American University of Beirut.

Session Description: The *roundtable on policy making* included the Brazilian Minister of Science, Technology, Innovation, and communications, Mr. Gilberto Kassab, and four panelists: the Iranian Minister of Energy, Dr. Reza Ardakanian; the Embassador Joao Gomes Cravinho (representing Carlos Moedas, EC), Mr. Eduardo Mansur, Director, Land and Water Division, FAO, and Mr. Xavier Leflaive, Principal administrator on behalf of the Secretary-General of the OECD. The *roundtable on science* included Chairwoman Zaira Turchi, CONFAP (Brazilian National Council of State Funding Agencies), and state representatives Pr. Sylvester Mpandeli (South Africa, Sr. Manager on behalf of the CEO of WRC), Dr. Tony Slatyer (Special Advisor on Water, Australian Department of Foreign Affairs and Trade, and member, World Water Data Initiative), Dr. Andrea Travnicek (US Department of the Interior, Deputy Asst. Secretary for Water and Science), Dr. Panagiotis Balabanis (Europe Commission DG Research & Innovation), and Prof. Antonio Eduardo Lanna (Water Resources Consultant, Brazil)

Session Questions:

- What is the key water challenge you must cope with? Please illustrate?
- What is urgently needed for being able to achieve in due time your policy objectives
- What is the key water challenge in the country you represent? Please illustrate?
- How to cooperate for creating critical mass, leverage effect? What are your ideas for working together and having a targeted and efficient action plan for the upcoming years?



Figure 5: Keynote Speaker Rabi H. Mohtar

III. High Level Panel – Regional Session: Water related SDGs in crises prone regions: turning reconstruction into sustainable development

Convened by League of Arab States, GIZ, and the Arab Water Council, Egypt, Hammou Laamarani. Participants included Dr. Hassan Al Janabi, Minister of Water Resources, Iraq; Minister Hazem Abu Ghoneim; Minister, Palestinian Water Authority, Dr. Iman Abd El Al; The Ibrahim AbdEl Al Foundation (IAAF) for Sustainable Development Lebanon; **Prof. Rabi Mohtar, Texas A&M University** and the American University in Beirut; Dr. Seif Abdullah Ministry of Water Resources, Sudan; Dr. Hussein El Atfy; **Mr. Bassel Daher, Texas A&M University**, who delivered the concluding remarks and discussion of the way forward.

Session Description: Several countries in the Arab and African regions as well as parts of other regions are entering a new era in water challenges, the post scarcity coupled with conflicts. Countries are facing the double challenge of dealing with protracted crises while striving to meet the basic needs and legitimate aspirations of their nations to sustainable development. Universal access to water and

sanitation in countries facing entrenched turmoil needs more than innovation, solidarity and justice. The panel discussed what makes a sanitation policy transition from reconstruction to sustainable development in water and sanitation sector within the frame of Sustainable Development Goals. The perspectives of both countries recovering from conflicts and countries hosting refugees will lead to an agenda for preparedness to be built for anticipation and mitigation of human tragedies in cases of conflicts. The post-conflict time could be turned into an opportunity to adequately plan and implement sector and cross sectoral programs for universal access to the right to water and sanitation within the 2030 vision in countries and regions.

Session Questions:

1. How to reconcile reconstruction and achievement of SDG6 in post conflict areas
2. What are the pillars of a preparedness strategy (regional and at country level) to ensure socio-economic and environmental resilience to shocks including forced migrations
3. What are the key drivers to ensure universal access to water and sanitation to the 65 Million refugees worldwide by 2030?
4. Sharing water also means sharing responsibility, how countries affected by mass migration could keep their aspirations and commitments to achieve SDG 6 and how reconstruction could be turned into an opportunity to plan and implement adequate policies to achieve the agenda 2030.

Highlights:

1. To arrive at SDG6, there is a need for regional integration in addressing challenges, enabled by political will.
2. There is a need for a long term funding strategy that allows countries to be proactive in addressing water challenges.
3. There is a need for more interaction from civil society, governments, and academia, all working together to push for human rights to water (in spite of the reality of the challenges of proper implementation).
4. There is a need for a new, holistic business model that looks at SDG6 and others connected to it.
5. We must address policy coherence challenges with the donors and leverage opportunities to achieve SDG6 within national plans.
6. International solidarity, with localized solutions (small scale natural based solutions), are necessary.



Figure 6. HLP: Water related SDGs in crises prone regions: turning reconstruction into sustainable development (l to r: Daher, Salim, AbuZeid, Laamrani, Mohtar)

IV. High Level Panel - Regional Session Sustainability Challenges Need Integrated Solutions: is water, energy, food the answer?

Convened by the League of Arab States, GIZ, Arab Water Council; participants included: Dr. Hammou Laamrani, League of Arab States, Egypt; Dr. Hussein El Atfy (Rapporteur), Arab Water Council, Egypt; Minister Dr. Djamel Eddine Djaballah, League of Arab States; **Prof. Rabi Mohtar (Keynote Speaker), Texas A&M University** and American University in Beirut, Lebanon; **Bassel Daher, Texas A&M University**

Session Description: Since 2014, the League of Arab States has led a regional initiative joined by regional organizations and donors to promote an integrated approach for the efficient use of depleted resources that represent a threat to sustainable, secure supplies of water, energy and food. Several projects were conducted that focus on regional policies and pinpoint the multiple challenges to be considered in planning similar experiences in other regions worldwide. The silo approach is entrenched in the national institutional landscapes. NGOs and CSOs are often sectoral in their approach, as is the private sector. Despite the fact that the SDGs narrative stresses the necessity of integrated approaches to achieve SDGs, the reality of sectoral policies and strategies requires several framework conditions to operationalize the WEF nexus approach and ensure coherence and integrated planning mechanisms.

Session Questions: The central question debated in the session was how WEF nexus is helping to achieve the sectoral SDGs and ways in which countries and stakeholders could use the Agenda 2030 to promote integrated approaches that ensure sustainability and efficiency of water, energy and land use, thus providing the needed securities. Optimization of two-way benefits between SDGs (targets) and WEF Nexus approach was also discussed.

Highlights:

1. Resource Nexus Hotspots have differing characteristics and constraints, varying critical questions, decision makers, interests, preferences; all of which differ across sectors and scales.
2. There is an advantage in a coordinated regional WEF Nexus strategy that recognizes the unique constraints of different hotspots, yet benefits from the comparative advantage one country might have over another in addressing the resource security challenges.
3. There is challenge to provide decision-makers with clear, simple, comprehensive answers. Good communication in translating the complexity of resource nexus challenges to support the decision making process is essential.
4. Improve the compatibility of existing tools is needed and should build on what has been done and avoid duplication of effort.
5. Improve quantification of values and priorities of players
6. Better understanding and quantification of the interactions between players and resource systems will help ensure solutions are implemented through policy coherent across scales.
7. Localized and contextualized quantification and assessment is necessary.



Figure 7. Understanding WEF Nexus Hotspots (l: Bassel Daher, r: Rabi Mohtar)

V. *Special Session Optimizing the water-energy production value chain*

Host Laurent BELLET (Electricité de France – EDF), participants included Diego RODRIGUEZ (World Bank), Annette LUTTAH (JVE-Togo), Dr. Eulrae LEE(K-water), Paulo DAMIAO (Santo Antônio Energy), Adriana RAMOS (ISA), Jean Comby (EDF), **Bassel Daher (Texas A&M University)**, was invited to give concluding remarks for the session.

Session Description There are numerous opportunities for achieving sustainable water use in the energy sector: improving water efficiency for energy production through water reuse, using water of a quality fit for purpose, reducing water loss in energy processes, producing more kWh per drop of water, applying the circular economy concept to water use in energy production and promoting conservation practices. These can be supported through approaches such as water footprint, water impact assessments and value chain analysis.

Key question: How to improve the efficiency of water use, while maximizing energy production value-chain?

Outcomes:

- Increase collaboration between Energy and Water sectors in additional areas to agriculture, climate
- Break the silos and raise awareness on tradeoffs in the Water/Energy sectors
- Ensure the SDG connectivity between Energy and Water related goals and indicators

VI. *Youth workshop: Citizen's Forum at WWF8: the Role of Youth in Leading SDG 6*

Bassel Daher, Texas A&M University, moderated a session that discussed on- and off-line alternatives for youth engagement in leading the implementation of SDG6, and ways in which they could complement one another. The workshop brought together global youth from several youth water organizations.



Figure 13. Youth Workshop

VII. *World Youth Parliament: Global Network for Youth Action on Water*

The World Youth Parliament ([WYPW](#)) is a global network of young water leaders from more than 80 countries. The Parliament advocates for water issues around the world, mobilizing youth in support of change. The Parliament convenes a general assembly during the World Water Forum every three years. The Parliament encourages action for a better water future. Elected board members serve three year terms, during which they work to raise awareness, network, and communicate the ideas and principles of a more sustainable water future. The movement fosters integrated approaches to water management using a river basin framework and advances regional development.



The 2018 WYPW General Assembly brought together young people from five continents at the Brasilia 8th World Water Forum. They elected a new board of young water leaders, including President, **Lindsey Aldaco-Manner, Texas A&M University** [[read more](#)]. The Vice President is Roshani Bhattarai, founder of the Nepal Youth Parliament for Water. Members also elected regional focal point representatives from each of six member regions: Africa, Latin America and the Caribbean, North America, Asia, Europe, and Oceania. Newly elected president, Aggie Lindsey Aldaco-Manner said, “I’m excited to stand up for the right of all to access water and sanitation. We have tremendous potential as a network to undertake projects that facilitate sharing while advancing the cause of water and peace. I would also like to thank the previous board for their hard work and service.”

During the Forum, participants advanced the cause of the Parliament’s theme: *Water and Peace* by participating in High Level Panels and discussions, ensuring the prominent and relevant visibility of youth voices. They also addressed the *Road to Dakar* session, in preparation for the 9th World Water Forum in Senegal.

In her concluding remarks for the **WWF Session: Influence of Science on Policy and Decision Making** (Organizers: *Alliance for Global Water Adaptation (AGWA)*-primary, Ecole des Points ParisTech, French National Center for Scientific Research (CNRS), French Water Partnership (FWP), National Institute of Water (Argentina), UNESCO-IHP) Lindsey highlighted her work as an intern in the US Congress in Washington D.C. and her observations of the need for science to simplify their messages in order to communicate well, making the points:

- Universities to include more courses that teach students to translate and communicate science to policy makers in their curriculum.
- Scientists must question their selection of words, in order to effectively communicate our message to the public and decision makers.
- From Facebook post by International Secretariat for Water March 21st - It takes extra time and effort to become a good science communicator: the courses simply aren’t offered.

