



University of Dundee

Dams, Floods and Cuts

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First Annual Report of the Global Observatory for Water and Peace



GOWP
Global Observatory
for Water and Peace

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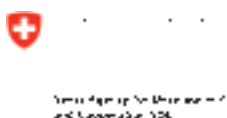
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First Annual Report of the
**Global Observatory for
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Abbreviations and Acronyms

ABI	African Business Initiative
ACLED	Armed Conflict Location & Event Data Project
ADB	Asian Development Bank
AIIB	Asian Infrastructure Investment Bank
AMCOW	African Ministers Council on Water
APN	Arab Group for the Protection of Nature
BASM	Sénégal- Mauritanian Aquifer Basin (Bassin Aquifère Sénégal-Mauritanien)
BCE	Before Common Era
BRICS	Brazil, Russia, India, China, South Africa
CA	Central Asia
CAB	Cultivating Good Water
CAREC	Central Asia Regional Economic Cooperation
CASA-1000	Central Asia- South Asia- (hydro)power transfer project
CDKN	Climate and Development Knowledge Network
COP	Conference of the Parties
COVID- 19	Coronavirus Disease 2019
COY	Climate Change Conference of Youth
CSO	Civil Society Organisation
CGIAR	Consultative Group on International Agricultural Research.
DFID	Department for International Development
DNA	Deoxyribonucleic Acid
EADB	East African Development Bank
EBR	Eurasian Development Bank
EBY	Binational Entity Yacyreta
ECOWAS	Economic Community of West African States
EIGS	Islamic State in the Grand Sahara (<i>in french</i> État Islamique dans le Grand Sahara)
EU	European Union
FAO	Food and Agriculture Organization
G-8	The Group of 8
G-20	The Group of 20
GEF	Global Environment Facility
GERD	Grand Ethiopian Renaissance Dam
GHLPWP	Global High-Level Panel on Water and Peace

GLOWA	Global Change and the Hydrological Cycle
GOWP	Global Observatory for Water and Peace
GPS	Global Positioning System
GWP	Global Water Partnership
GWP-Med	Global Water Partnership-Mediterranean
GDP	Gross Domestic Product
GS	General Secretariat
GWH	Geneva Water Hub
HPP	Hydropower Plants
HPS	Hydropower Systems
HRW	Human Rights Watch
HRWAS	Human Right to Water and Sanitation
IAC	Information and Analytical Center
ICJ	International Court of Justice
ICPDR	International Commission for the Protection of the Danube River
ICSSI	Iraqi Civil Society Solidarity Initiative
IDRC	International Development Research Centre
IFAS	Interstate Fund for saving the Aral Sea
IITG	Indian Institute of Technology Guwahati
IGO	International Governmental Organization
IHL	International Humanitarian Law
IICA	Interamerican Institute for Cooperation in Agriculture
INGO	International Non-Governmental Organization
INBO	International Network of Basin Organisations
ISDM	Information System for Remote Monitoring
ISIS	Islamic State of Iraq and Syria
IPCC	Intergovernmental Panel on Climate Change
IUCN	International Union for Conservation of Nature
IWL	International Water Law
IWMI	International Water Management Institute
IWS	Investments for Watershed Services
IWRA	Integrated Water Resources Association
IWRM	Integrated Water Resources Management
JES	Jordan Environment Society
LCRP	Lebanese Crisis Response Plan
MENA	Middle East and North Africa
MSA	The Movement for the Salvation of Azawad (<i>in french</i> Mouvement pour le salut de l'Azawad)
MP	Member of Parliament
MUJAO	Movement for Oneness and Jihad in West Africa (<i>in french</i> Mouvement pour l'Unification et le Jihad en Afrique de l'Ouest)
MW	MegaWatts
MWGW	Multilateral Working Group on Water Resources
NBI	Nile Basin Initiative
NCCI	Non-governmental Coordination Committee for Iraq
NBA	Niger Basin Authority
NEEGI	Nuclues for Strategic Studies, Geopolitics and Regional Integration
NDC	Nationally Determined Contributions
NGOs	Non-Governmental Organisations
OAS	Organisation of American States
OCGS	Citizen's Observatory on Governance and Security
OCHA	United Nations Office for the Coordination of Humanitarian Assistance
OELA	Latin American Observatory of Geopolitics of Energy
OMVS	Senegal River Basin Development Organization (<i>in french</i> Organisation pour la mise en valeur du fleuve Senegal)
OMVG	Gambia River Basin Development Organisation (<i>in french</i> Organisation pour la mise en valeur du Fleuve Gambie)
PED	Pôle Eau de Dakar
PMU	Project Management Unit
PMMA	Municipal Plan for the Atlantic Forest

PPE	Personal Protective Equipment
PSP	Progressive Socialist Party
RBOs	River Basin Organisations
RSCN	Royal Society for the Conservation of Nature
SADC	Southern Africa Development Community
SCP	Shanghai Cooperation Organisation
SDC	Swiss Agency for Development and Cooperation
SDG	Sustainable Development Goals
SIDA	Swedish International Development Cooperation
TWD	The Water Diplomat
UfM	Union for the Mediterranean
UK	United Kingdom
UN	United Nations
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNECE	United Nations Economic Commission for Europe
UNGA	United Nations General Assembly
UNICEF	United Nations Children's Fund
UNILA	Federal University of Latin-American Integration
UNRCCA	United Nations Regional Center for Preventive Diplomacy for Central Asia
USBR	United States Bureau of Reclamation
UN Women	United Nations Entity for Gender Equality and Empowerment of Women
UPWCD	Universities Partnership for Water Cooperation and Diplomacy
US	United States of America
USBR	United States Bureau of Reclamation
USSR	Union of Soviet Socialist Republic
VICMED	"Establishment of a Navigational Line between Lake Victoria and the Mediterranean Sea Project
WASH	Water, Sanitation and Hygiene
WFP	World Food Program
WHO	World Health Organization
WSS	Water Supply and Sanitation
WWC	World Water Council
WWF	World Wildlife Fund



Forewords

Dear readers, it is an honour for me to be able to express myself in the first edition of the report of the Global Observatory for Water and Peace (GOWP), that will be launched during the 9th World water Forum of Dakar.

Senegal is closely linked to the developments of the water and peace nexus. The Minister of water and sanitation of Senegal was a vice chair of the Global High-Level Panel on Water and Peace, launched in 2015, with the Geneva Water Hub as Secretariat. The Panel published its recommendations in the report “A Matter of Survival” two years later, structured into 7 chapters, which provided the first reflection in history on water and peace. In 2016, Senegal organized the first open debate on water, peace, and security at the United Nations Security Council, to initiate the discussion on the peace and security implications of water management. Furthermore, Senegal set the theme of the 9th world water forum, which it would host, for “Water Security for Peace and Development” structured around four pillars: (i) water Security and Sanitation, (ii) Water for rural development, (iii) Cooperation and (iv) Means and Tools including the crucial issues of financing, governance, knowledge management and innovation.

The water and peace movement has seen various major developments during these recent years; developments which will be presented at the 9th world water forum. The Global observatory for Water and Peace is one of them.

The GOWP’s vision does not entail the creation of a new organization but rather the creation of a network of partners who, possess both a strong analytical capacity and the ability to create safe spaces to address hot topics concerning water and peace. Two types of partnerships are in place: those

covering geographical regions and societal nodes covering for example youth, women’s engagement, or media with the Geneva Water Hub as current Secretariat. This GOWP is an open, federative structure.

I appreciate the participation in this initiative and this report by the P le Eau de Dakar as the regional partner for West Africa, and as a key actor in the follow-up of the recommendations and projects of the 9th World Water Forum in the African region.

The GOWP’s report presents insights of various key water and peace aspects. It is structured on the framework of the Global High-level Panel and is a continuity of its reflection. The GOWP report will be published every year.

I have no doubt that this first report of the Global Observatory for Water and Peace will inspire and be a source of influence to the works and sessions of the 9th world Water Forum and for the inclusion of the water and peace in the 2023 UN Water Decade Conference.

Abdoulaye SENE
Co-Chairman of the International Steering
Committee of the 9th World Water Forum



The looming global water crisis is a problem that requires more attention and better international cooperation. While these needs are widely recognised, there is less international agreement regarding the necessary steps at local, national, and international levels. The needs vary from country to country and from region to region. However, the general picture is bleak. The principle of integrated water management remains valid as the guiding principle for policy makers but has proven insufficient for an effective international action. Analysts often cite a “lack of agency” at the political and diplomatic levels and emphasise the need for strengthened international and global hydro diplomacy.

The Global High-Level Panel on Water and Peace, among others, expressed this view in its report “A Matter of Survival” in 2017. Importantly, the Panel clarified that the needed “agency” means “increased capacity of international actors to act effectively in the current global environment in which water problems are growing and are likely to contribute to international tensions, disputes and threats to peace.” In this spirit the final chapter of the Panel’s report called for new mechanisms of water diplomacy and proposed the creation of the Global Observatory for Water and Peace. Practical steps followed as of 2018.

The Global Observatory for Water and Peace (GOWP) was conceived as a network of autonomous units, with the Geneva Water Hub as the first Secretariat. Its purpose is to study the relevant issues and to promote water cooperation as an instrument of avoiding conflicts and developing cooperation mechanisms, as well as peace building activities.

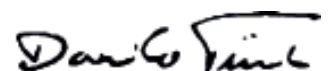
An important aspect of the work of the GOWP is to strengthen the capacity of relevant actors to

communicate discreetly. Knowledge management, discreet consultations, assistance in securing financing for transboundary water projects and other similar activities are all necessary for improved international water cooperation.

The GOWP works informally, without a large secretariat. It relies on the dedicated engagement of its national and international actors. The International Geneva provides an ideal location for meetings and interaction with the international organisations based in this city. The work so far has already demonstrated the advantages of working in close cooperation with the Geneva based organisations, most recently in the progress achieved in the building of cooperation related to the Senegal-Mauritania aquifer. Progress has been made in other parts of the world as well.

The current volume presents the main features of work conducted within the Global Observatory for Water and Peace thus far. Readers will learn about the variety of topics addressed and varying levels of cooperation achieved. International water cooperation includes diverse elements ranging from learning and knowledge management on the one end of the spectrum, to capacity building and planning in the middle, and to specific projects of intergovernmental cooperation at the end of the spectrum. Variety of experience is a powerful source of inspiration. Let the current report inspire many.

Dr. Danilo Türk
Chairman, Global High-Level Panel on Water
and Peace



Preface

The document in your hands presents the perspectives of the actors brought together through the Global Observatory for Water and Peace (GOWP). As the introduction to this collection details, the GOWP initiates and facilitates dialogue, marshals supporting research and creates momentum towards the use of water as a catalyst for peace. Through this report, the Observatory is also a global stage upon which different actors can demonstrate how they do exactly that.

The perspectives range from all corners of the planet. You will read about water issues facing different hemispheres and spanning over one hundred degrees of latitude. The range of topics covered is even broader than the geography. You can learn how the GOWP originated and where it's going, as well as about both the shortcomings with and progress in water resource management methods. You will get insight into what "works" with transboundary waters. Some contributions reflect state perspectives while others challenge them. Some focus on geopolitics, others on traditional knowledge. The (inexcusable) under-tapped role of women is laid bare. Dams are discussed alongside institutions, examples of international cooperation are described next to expressions of violence, and conventional thoughts are laid out alongside innovative concepts and practices.

Together these pieces are like a constellation of stars that the GOWP is currently watching. This constellation is in many ways a reflection of the great diversity of the world which supports us and is networked multilateralism¹ at its best. This informal network provides independent thoughts, policies, and reflections and is distinct from the formal institutional multilateralism that is carefully orchestrated by international institutions. Apart from the work of proof-readers, these contributions have been left untouched and thus read the way raw video footage is viewed, without commentary or voice-over, and so are just as valuable. Of course, the views expressed by each contributor are their own and are not necessarily shared by the others.

These contributions have been written in a world whose biophysical and political climate is constantly changing. Dramatic political shifts occur almost every week. Major economic shifts seem to happen every few years, pandemics, and health issues every few decades. Floods and droughts seem to come out of nowhere but are of course a result of a variety of factors, such as inadequate water management, deficient or aging water infrastructure, and both the rapid and centuries-long onset of climate change.

¹

As mentioned by the UN Secretary-General at the Annual General Meeting on the 75th Anniversary of the United Nations in 2021.

Those of us who seek to use water as a catalyst for peace thus have our work cut out for us, but the GOWP is now building the stage to help with this endeavour. As the GOWP continues to develop its governance structure, some principles are becoming clear. An inclusive and basin-wide approach to water challenges is preferred over those which privilege state sovereignty or select communities, and that respect for and guidance from the principles of international law lets us put some sure steps forward. The goal of “peace” is not used lightly; it is understood in the way that the recently departed Archbishop Desmond Tutu saw it: as embedded with justice, and as something worth fighting for. Achieving peace through water thus means reconciling distributive and procedural justice, and grappling with hydrology and rainfall patterns alongside economics, law, and politics.

“Peace” takes on a broad meaning indeed when it comes to using water in a manner that can be sustained for generations. It is clear in 2022 that the commodification of water that was accepted informally in Dublin Principles four decades ago has not led to a more equitable or fairer distribution of water everywhere it has been attempted. And yet operationalising the Human Right to water remains an elusive goal, as economic and political systems still dictate water use in so many instances around the globe. For watercourses which span political borders, moving towards “peace” means confronting that apparently intractable upstream-downstream dynamic. The degree to which we can reconcile upstream water use with downstream impact is an open judgement of humanity’s ability to act collectively. The conceptual leap required is towards meta-sovereignty or shared sovereignty (or the doctrine of Limited Territorial Sovereignty in the words of International Water Law). After all, upstreamers have a legal entitlement to use the water that is under their territorial jurisdiction, while downstreamers have a legal entitlement to avoid significant harm. All actors involved are encouraged to use the water in an equitable and reasonable way and have an actual *duty* to cooperate. In all cases, the procedures, and institutions of water management and of transboundary water collaboration gather even greater importance because they are instruments of fairness and chart a path we can follow.

Despite the breadth and interdisciplinarity of this report, there are a few similarities among the contributions that are worth highlighting. First is the focus on the extent to which we, humankind, are responsible for creating the challenges we now face. The contributions do not lay the blame on Mother Nature or climate change, but on the decisions that people have made. This is important, because when dams fail in Central Asia or when water gets caught up in the

fighting in the Sahel, we know where to turn our focus. If we created the problems, we could surely fix them.

Unsurprisingly, given the nature of the GOWP, international norms are another recurring theme. The limits of the application of International Humanitarian Law in the Sahel are laid out alongside the use of the Helsinki Convention on the Senegal and Gambia, as well as the Human Right to water in the Middle East. Several contributions also describe innovation, from traditional conflict resolution techniques in Niger, to the involvement of youth in river basin councils throughout Central Asia or agriculture biotechnology in Gaza. This also includes “citizen science” when people take things into their own hands, as in the protests in Lebanon, or through media influence in international water policy. Readers will see here what they may not likely see elsewhere, such as the latest state policies to initiatives developed from within a different generation with an entirely fresh mindset.

There are many features indeed that will jump out at formal water diplomats and all of us seeking to promote peace through water. River Basin Organisations are maturing and leading to “common interest infrastructure” where the ownership of projects is shared. The potential of such an approach is exciting, and it also aligns nicely with the spirit of international water law. As some of the contributions in this report remind us, the potential destruction that can result from dams obliges us to push for inclusiveness and learn lessons from previous efforts that were exclusive and top-down. The avant-garde basin organisation of OMVS and OMVG have proven able to obviate the most nefarious aspects of water conflict and encourage international coordination. Very positively, the benefits seem to be contagious because they have now spread to the 2022 agreement on the Senegal-Mauritania Aquifer Basin that underlies both the river basins. The Trifinio Cooperation Agreement is equally encouraging; for decades it has led to protected areas and attracted co-financing that may ensure the sustainability of projects for decades to come.

Perhaps the main finding which emerges from this set of perspectives is that multilateralism works best. Multilateralism works best when disaster strikes or big infrastructure is planned, works better when it includes women, youth, and civil society, and is essential for diplomacy seeking to transform water conflicts towards equitable arrangements. With eyes wide open to the politics that create the need to fight for peace in the first place, we observe that coordinated action in the right direction can make a difference. As the current Secretariat of the GOWP, we are convinced it is the best way to progress.

Happy reading.



Chapter 1

The Global Observatory for Water and Peace: An innovative “envoy” for Peace

This is the first annual report of the Global Observatory for Water and Peace (GOWP) and includes an analysis of the relevant advances to date in the use of water as a catalyst for peace and the priorities given to the question of water and peace. The report is based on the analytical framework and the recommendations of the Global High-Level Panel on Water and Peace (GHPWP) and was led by the Geneva Water Hub (GWH) as Secretariat. The production was initiated in 2020, and was delivered through discussions and exchanges with partners.

This report is a compilation of all the individual partner contributions, which are presented as they were delivered to the Secretariat. Thus, different chapters have different writing approaches and styles.

Under the consensus that water and hydrodiplomacy are powerful instruments for cooperation and peace, different partners have shared their perspectives in this annual report. These views do not necessarily reflect the views of all partners.

This first chapter introduces the reader to the background and the *raison d'être* for the Global Observatory for Water and Peace. In addition to including an introduction and background on the GHPWP, this chapter outlines the development of the water-peace discourse, and the role and current structure of the GOWP. It concludes with the objectives of the report and explains how it was compiled.

In 2017, the Global High-Level Panel on Water and Peace concluded its mandate by emphasizing that the world is facing many water-related problems. Some two billion people do not have access to safe drinking water. In addition, 40% of the world's population lives in basins where rivers and aquifers are shared by different countries and could become areas of potential conflict. In contemporary armed conflicts, resources and hydraulic installations are increasingly under attack and used as weapons of war. Water scarcity is exacerbated in a world where a growing population is facing climate change caused by human activity. These numbers will probably grow as the effects of climate change become more pronounced, leading to lower yields, droughts, floods, and other extreme weather events. The effects will be felt around the world, but their greater impact on food security and the displacement of vulnerable populations will affect developing countries first. Migration and the resulting uncontrolled urbanization will exacerbate the pressure on already limited water resources even more.

The Covid-19 pandemic has further exposed many of these vulnerabilities, including access to water. In July 2021, it was estimated that 3 in 10 people worldwide could not wash their hands with soap and water at home during the Covid-19 pandemic <https://washdata.org/>.

In the face of these problems, we will have to find a way to double food and energy production by mid-century, which will require considerable water resources not only to satisfy the needs of the ever-growing population, but also to maintain favorable environmental conditions for the functioning of ecosystems. The scarcity of water increases the competition between the needs of various water uses, whether for human consumption, industry, energy production or the environment. This inevitably leads to tensions between users, different sectors, different users of a watershed or states.

Water is at the central link between energy, health, agriculture, industry¹ and biodiversity. The crises we face overlap and intersect, and we cannot afford to solve them in isolation. But by focusing on what connects these crises, water, and Sustainable Development Goal 6, we can make progress in other areas. Conversely, ignoring water's role as a link will make it impossible to achieve the other Sustainable Development Goals.

Achieving water security therefore requires interdisciplinary collaboration between different sectors, communities, and countries. International cooperation is thus of vital importance. It is crucial to recognize both the importance and the political nature of many water-related issues that must be dealt with diplomatically and require attention that goes beyond technical cooperation.

1

Projections estimate 400% industrial water growth by 2050.

The Global High-Level Panel on Water and Peace

Although international water cooperation is imperative, the current level of international water cooperation leaves much to be desired. Water problems are becoming ever more central in the armed conflicts of our era, a tendency which serves as a dramatic reminder of the fundamental nexus between water, security, and peace.

These considerations led fifteen UN Member States to initiate the creation of the Global High-Level Panel on Water and Peace (the Panel) to examine water and peace linkages. The Panel was launched at a ministerial meeting in Geneva on 16 November 2015, in response to the growing international sensitivities towards water issues and the need expressed by successive UN Secretaries-General from 1993 to 2013. The Panel's work was supported by the Geneva Water Hub, as Secretariat. (<https://www.genevawaterhub.org/resource/global-high-level-panel-water-and-peace-secretariat-0>)

The Panel's mandate, given by the fifteen co-convening countries, for a two-year period until 2017, was to consider water in the context of maintenance of peace and security, from a technical to a political level. It has the following objectives:

- Develop a set of proposals aimed at strengthening the global architecture to prevent and resolve water-related conflicts;
- Facilitate the role of water as an important factor for building peace and cooperation; and
- Enhance the relevance of water issues in national and global policy making.

The Panel concluded that the global water challenge is not only about the development sector and human rights, but also about peace and security. Therefore, there is an urgent need to pay special attention to the link between water, peace, and security, and to address it in an integrated and comprehensive way at all levels. This challenge needs a response in terms of new thinking, new practices and new institutions in diplomacy, international law, data management, finance, security management, technology, migration, climate change, pollution control among other spheres.

The Panel presented a set of concrete recommendations for action along these lines, in its 2017 Report *A Matter of Survival* (GHLPPW,

2017). The Panel's report was the product of eight expert roundtables on cutting-edge topics, as well as consultations with hundreds of policy makers and experts from around the world. Following four working meetings held on various continents, the Panel presented its final report at the end of 2017 in Geneva, New York, and at many global and regional events.

The Discourse on Water and Peace

In the past years, there have been increasing warnings about the possibility of water conflicts and water shortage, coupled with poverty and societal instability, which could weaken intra-state cohesion and fuel inter-state conflicts. At the local level, we are seeing the emergence of increasing intersectorial conflicts. Disputes are often expressed as water issues but are often more complex and caused by multiple factors. But, as the literature documents, water is also a tool for cooperation, and is the subject of agreements and joint commissions, often at the basin or regional level.

The water-peace discourse exists between the two poles of conflict and cooperation and is built around two key objectives: the prevention of water-related conflicts and leveraging water as an instrument of peace. The discourse is meant to strengthen the linkage between the Sustainable Development Goals 6 and 16 in the short term up to 2030, and the water and peace-related sectors in the longer term.

The water-peace discourse has been developed through the interactive dynamics between and leadership of these three main initiatives: the Blue Peace Initiative (<https://www.thebluepeace.org/>); the Geneva Water Hub (<https://www.genevawaterhub.org/>); and the Global High-Level Panel on Water and Peace. A detailed description of the water-peace discourse, including its development and its elements, is available in Carmi et al.

The Panel calls for the development of tools and the use of various elements to achieve the two main objectives of the water-peace discourse, which include institutional, legal, financial, and political instruments. One of these elements is the Global Observatory for Water and Peace.

The *Raison d'être* of the Global Observatory for Water and Peace

One of the Panel's main recommendations was to set up the Global Observatory for Water and Peace (GOWP) that would function as an inclusive network that ensures that linked partners working on water cooperation fill in the critical gaps of the global water architecture.

To understand the different role that the GOWP plays, it is important to trace back the discussions on international water cooperation, and to relate them to the growing urgency to adopt new mechanisms of water diplomacy, capable of answering the challenges of the 21st century.

Many international institutions deal with water issues, from river basin organizations or transboundary water management systems to research institutes, as well as regional intergovernmental organizations and UN organs, agencies, funds, and programs. Many of the latter institutions have a variety of water issues included in their mandates and programs and all contribute significantly to water cooperation, to the extent possible at the current level of international cooperation. While these organizations and mechanisms are doing valuable work in furthering joint water management as a means of advancing peace, it is necessary to recognize the political importance and nature of many water issues that need to be addressed diplomatically, therefore requiring attention beyond this technical dimension of water cooperation.

In 2014, Adelphi's report *The Rise of Hydro-Diplomacy* (Pohl et al.) called for more agency or capacity to act effectively through an institutional setting which connects pivotal actors and reinforces and complements existing frameworks, initiatives, and expertise to coordinate and execute political action. "Agency" is the capacity of international actors to act effectively in the current global environment, in which water problems are growing and are likely to contribute further to international tensions, disputes, and threats to peace.

In February 2017, the Geneva Water Hub organized a two-day think tank workshop on "Hydro-Diplomacy and Financial Incentives for Water, Peace and Security" to discuss possible approaches for fostering water cooperation for broader peacebuilding and to develop recommendations of

action for the Panel. The workshop was held in the context of the collaboration between the Panel on Water and Peace and the UN-World Bank High-Level Panel on Water (<https://www.genevawaterhub.org/round-table-hydro-diplomacy-water-peace-and-security>). This workshop assisted in the development of the need to establish the GOWP. The idea was first introduced in an input paper that set the stage for the discussions among the experts and was based on the argument that new approaches of hydro-diplomacy are required to realize the potential of water as a tool of peacebuilding and conflict-prevention.

Water cooperation at the technical level does not ensure political spillover. The traditional approach to transboundary water cooperation is to encourage technical joint management of shared water resources. However, building peace entails political and diplomatic processes. Water cooperation can be harnessed to build and support those peace processes, and hence water can play a role in peacebuilding, and potentially, peace settlements.

The Panel's answer to this quest for a global home for hydro-diplomacy and the lack of agency at the international level was the establishment of the Global Observatory for Water and Peace. It would function as a new mechanism in facilitating agency, collecting, and disseminating existing knowledge and acting as a neutral arbitrator.

The Role and Structure of the GOWP

As a global platform, the GOWP assists interested stakeholders to use water as an instrument of cooperation, to avoid tension and conflicts, and to promote peace. The GOWP has adopted the knowledge management approach and facilitates discreetly rather than through traditional dispute settlement, peacemaking, or peacebuilding approaches. It is a mechanism that engages all relevant actors, whether global or local, or from the water, peace, security, diplomacy, and related sectors, to facilitate political cooperation around water for peace.

By bridging and promoting existing skills, the GOWP will improve the limited capacity of international actors to act collectively and effectively at the political and diplomatic levels. It will unite and align regional and local partners, credible and neutral institutions committed to the agenda of water, peace, and security. The GOWP functions by

strengthening the nexus from global to local levels through its network and partners.

To deliver its role, the GOWP and its nodes have two main capabilities:

- The first is its analytical/foresight capability and the expertise to conduct data and research supported analysis, to provide an annual overview of global efforts in terms of water, peace, and security, whilst encouraging the production and use of innovative approaches and tools to better understand and meet water, peace, and security challenges.
- The second is its non-conventional convening capability through a global safe space approach for pre-negotiation consultations at an early stage of project development, or to proactively address major and sensitive water and peace issues.

The GOWP was launched during the Arab Water Week at the Dead Sea (<https://acwua.org/fifth-arab-water-week-2019/>) Jordan in March 2019, as an open, lean platform for all entities concerned by the challenges of the water, peace, and security nexus, which brings into evidence and practice the untapped potential of water in peacebuilding. It currently includes 11 partnerships.

The GOWP is a network platform of node partners of different natures which carry out a strategic and in depth- analysis on the use of water as a vehicle for peace in their regions and communities of practice; this is carried out in a dynamic of creative exchange and contributes to creating a “discreet” or safe space, to progress on key themes of more generic scope, or of global scope.

At the time of the writing of this report, a Charter is being developed for the GOWP, including some of the following principles, which all current and future partners to the GOWP will have in common:

- Having a regional approach to water issues;
- Having independence in the analysis and promotion of views, and exploration of issues;
- Actively support, promote, or use the principles of International Law (particularly IWL and IHL) as a guiding work principle;
- Demonstrated responsibility towards communities;
- A demonstrated will to influence;
- Progressive social values;
- A reputation for all the above and respect amongst actors in the relevant circles;
- Having a convening power;
- Being nimble and flexible
- The GOWP currently includes regional and societal partners.

Regional Partners

Each regional partner must have the same capacities as the GOWP: (i) analysis and (ii) convening capacity and credibility to create neutral spaces for reflection (safe space).

Regional partners work closely with the Geneva Water Hub, in its function as Secretariat to the Panel and to the GOWP, in the implementation of pertinent recommendations and the advancement of the water-peace discourse in the region. The establishment of node partnerships is achieved through a Memorandum of Understanding with the Geneva Water Hub. This ensures that the GOWP structure is flexible and maintains the neutrality and independence of both the GOWP and the partner in question. The forging of these strategic partnerships is a delicate process, which requires time, innovation, trust, and influence.

At present, the Global Observatory for Water and Peace is made up of regional partners in West Africa, International Geneva, Latin America, the MENA region, Russia, and Central Asia. The flexibility of a network allows for partnerships that are region-specific and context-specific; these partnerships are forged with think tanks, research institutes, regional organizations and all other institutions working towards the use of water in peacebuilding. Different parts of the world have different water challenges and hence the richness and diversification of the partnerships.

Societal Partners

The GOWP also includes partners that enrich its reflection and ability to advance the water- peace nexus concretely, and that support using water as a vehicle for peace in meeting the challenges of climate change, urbanization, demography, and present-day conflicts and migrations. These partners include youth, local populations’ voices, women in water diplomacy and the media.

As stated earlier, the GOWP is an open network which new institutions can join in the future.

The Safe Space Concept

The second convening capacity that the GOWP and its regional partners offer is the “safe space” concept: the provision and facilitation of an informal, neutral platform to foster open dialogue and the sharing of information between parties on sensitive matters in think tank mode. In addition, the safe space is aimed to create the political will to pre-negotiate potential agreements, as well as to develop joint projects. It can also be a platform to prepare and develop bankable projects among various stakeholders at an early stage within project development, or even be used during implementation when challenging conflict situations occur. The safe space is NOT meant to substitute formal state dialogue, but rather to complement it, by bringing in the perspectives of academics, experts, policy and decision makers, civil society, and private and public sectors.

To date, safe spaces have been convened jointly by the Secretariat and line partners based on request.

Objectives of the GOWP annual report

The Global Observatory for Water and Peace is the continuation of the analytic work initiated by the Panel, which presented in an annual analytic report to be compiled by the Geneva Water Hub as Secretariat, from the individual reports of the partners. The GOWP has the same approach and

global reflection that characterized the Panel and the co-convening countries that established it.

The objective of the GOWP annual analytic reports is to continue the work of the Global High-Level Panel on Water and Peace by:

- applying the analytical framework of the Panel’s report to each context (i.e., the seven thematic areas),
- outlining gaps, challenges, lessons learned, existing or emerging solutions and relevant new topics to consider and,
- producing a hydro political analysis conducive to peace and cooperation.

All partners wrote their individual contributions, based on a common Terms of Reference, and Guidance Table shared by the Secretariat in Summer 2020, to produce this compiled report. The contributions in this report cover a wide range of topics including, the role of river basin organizations in promoting multilateralism, traditional mechanisms for managing water conflicts, the role of youth in multilateralism, the adoption of innovative technologies, the empowerment of women in water diplomacy, new opportunities arising from regional investment planning and a stronger science-policy interface, climate change and migration, the coordinated management of surface and groundwater and dam safety, and media as a voice for water and peace.

A closed roundtable was held with the contributing partners to this first annual analytic report of the GOWP on December 3, 2020. The objective of the roundtable was for partners to present the main themes and focus areas of their contributions, to exchange information and to collectively reflect on joint key messages.

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Chapter 2

River Basin Organizations as an Asset for Water and Peace

Freshwater is one of the most unevenly distributed yet critical natural resources in the world. It represents the most significant challenge since it is both indispensable and irreplaceable. Water is impacted by climate change (climatic variability and worsening climate conditions), rainfall deficit (droughts), and extreme hydrological phenomena (catastrophic floods and severe low-water levels). Seasonal variability also impacts the management of surface water resources. By 2050, at least one in four people is predicted to be living in a country with chronic or recurrent freshwater shortages. Competition for water is therefore inevitable. Because water is more than just a natural resource, it has a geo-strategic dimension which often makes it a security issue for state policy. According to many experts, unequal access to water could become the main cause for future conflicts. Nevertheless, there are many cooperation initiatives around water resources worldwide which have led to treaties or agreements between states.

Africa has many shared rivers, most of which travel through several countries and play a role in the natural distribution of water as a vital resource. Indeed, rivers flow from humid regions towards more arid regions. For example, rainfall is more than 2200 mm at the source in Fouta Djallon for the Senegal River, but only 100-200mm in the delta towards Saint-Louis.

Most African countries started cooperative initiatives around transboundary basins at the dawn of independence in the late 1950s and early 1960s.

Surprisingly, in some cases, countries experiencing drought accelerated and strengthened this cooperation, which was mainly driven by the need to set up both water management infrastructure and institutions to adapt to the seasonal nature of surface water.

Water management is a global issue, but in Africa, access to the resource is often a question of survival. Drought, regardless of its duration, affects internal migration (rural exodus), which in turn fuels migratory flows towards other continents.

Fortunately, African countries are generally inclined to cooperate on issues of shared water resources, but they are not immune to competition and tension arising around the resource. Africa is the second driest continent in the world after Australia. It is characterized by marked contrasts between very arid, even desert land, and humid areas with significant water availability. In Africa, water management is a strategic issue which entails massive investment that is often not sustainable for a single country and thus requires international funding. Africa still lags in terms of water infrastructure because it lacks the large investments needed to reduce disparities and respond to water insecurity. Although there are 50,000 large dams worldwide, fewer than 2000 of them, or less than 5%, are in Africa. Because the continent is made up of small countries with limited financial means, the investment gap in large-scale hydraulic and hydroelectric infrastructures must be bridged through the reinforcement of interstate cooperation.

Partnerships are thus being fostered across the continent through the implementation of formal cooperation frameworks around shared (river and lake) basins. Basin organizations, most of which have existed for decades, are now facing transboundary management issues, and are trying to move towards water agreements and concerted development. Today, despite the risks of conflict often linked to unilateral decisions, the basin organizations around the Niger River, Senegal, Gambia, Volta, and Lake Chad, and others, manage to find a way to compromise, especially when it comes to large-scale projects such as hydraulic infrastructure.

The vital nature of water, its scarcity in certain places, and the impact of climate change on available resources can all lead to recurring tensions and competition over its use. Problems may arise between riparian countries or even between those located upstream and downstream. The duration and intensity of these disputes depend above all on the openness of the countries concerned, that is, those sharing common water resources, to consultation.

If a cooperation framework is in place, it greatly facilitates conflict resolution. In this regard, the OMVS (*Organisation pour la Mise en Valeur du fleuve Gambie*) has proven its ability to act as a catalyst and framework for finding peaceful solutions to disagreements between some of its member countries over the use of river water (e.g., the Fossil Valley crisis in Senegal).

Africa is characterized by a high degree of water interdependence between states. This offers significant opportunities to promote cooperation at all levels. Today's challenge is to expand these opportunities for cooperation around the continent's important water resources to contribute to its sustainable development and prosperity. A deeper understanding of successful models of sustainable cooperation would be invaluable in developing the appropriate collaborative approaches to shared water management.

The "Pôle Eau de Dakar" (PED) focuses on transboundary lakes and rivers in the context of water scarcity, where shared watercourses are central to national strategies aimed at achieving or preserving water security. Surface waters are well known, relatively accessible, and renewable and are the most studied both in qualitative and quantitative terms. This contrasts with groundwater, which is often fossilized and difficult to access due to its depth, and of which little is still known.

Africa's 68 shared river basins constitute 20% of the world's transboundary basins and

cover two-thirds of the continent's total area. To improve and promote cooperation around shared waters, the PED also aims to better understand the continent's strengths and weaknesses. Accordingly, the PED advocates a capacity-building agenda, especially in the field of hydro-diplomacy and knowledge and fosters a global debate on conflict prevention around water.

In some regions, particularly in the Sahel, population growth, armed conflict, and climate change worsen water-related crises, creating fertile grounds for inequalities, insecurity, and potential water conflicts. These occur either between communities in the same country, or between communities in different states which share common resources. In these circumstances, it is the lack of policy instruments and formal frameworks for water resource management which render water governance challenging.

In some situations, the strategic dimension and the geopolitical stakes turn water into a source of conflict or an issue of domination. In this case, the aim is not always the control of water itself, but the use of water as a weapon to achieve military, socio-economic, and even psychological objectives. Using water as a weapon of war is referred to as "hydro-terrorism".

Below is a list of potential scenarios of competition, conflict, or tension over water:

- *Water as an object and target of conflict.* These are unilateral undertakings that aim to control water resources (e.g., building dams, using inter-basin transfers, etc.) to meet the consumption needs at an agricultural or domestic level, produce electricity, with the risk of triggering tensions and conflicts between states that share the resource.
- *Water as a collateral victim of conflict.* This applies to situations where political or ethnic skirmishes not originally related to water issues trigger conflicts: border disputes, population displacement, generalized insecurity, etc.) which then impact the access and management of freshwater resources, or threaten the safety of hydraulic, hydroelectric, or navigation structures.
- *Water as a strategic weapon often used by anarchic or terrorist groups to dominate populations and states.* This scenario has not been observed in Africa, but actions by terrorist groups prevent populations from exploiting water (Boko Haram and Lake Chad).

Fortunately, however, water also plays a key role in conflict prevention and resolution in situations where cooperation frameworks such as

basin organizations or existing joint structures (joint or border dams) forestall and mitigate the risk of conflicts or resolve them when they do arise.

The PED focuses on promoting interstate cooperation and coordination around water resources. To this end, it is important to better understand and analyze developments related to the availability of and pressure on freshwater resources. Today, Africa is faced with a steadily increasing demand and growing variability of uses, along with decreasing water availability, and in some instances, deterioration in quality. Thus, water is becoming an increasingly strategic and geopolitical resource. When faced with availability issues, the impact of water governance and management responses depends on their relevance and ability to provide concerted and negotiated responses to shortages. Fortunately, cooperation in planning infrastructure for water control seems to be the general trend (e.g., Niger Basin), and sometimes even leads to joint implementation (e.g. OMVS and OMVG).

Two major challenges that exist in international river or lake basins are the coordinated management of water management systems such as dams, and the distribution of water among users or uses. Many basins have countless infrastructures that withdraw, store, and discharge large quantities of water from shared rivers. One of the most important issues of resource governance in these basins is ensuring the coordinated management of all these activities, especially in the current context of climate variability and change. Indeed, considering the river basin as a single body, development planning should be carried out in a comprehensive manner. The required developments should ideally be implemented through a diversified approach, but could be carried out individually by country, provided the development falls within the framework of the “global development plan,” once it is negotiated and accepted by all the countries involved.

The issue of resource allocation in terms of quota distribution between riparian states or major users involves compromising through dialogue as each party defends its interests while considering those of others. The task of allocating water resources between different sectors is a technical one which experts from riparian states must agree on. However, resource allocation between states is a political matter, and the defense of national interests tends to take precedence over all other considerations.

Allegations that one of the countries in the basin is withdrawing or extracting large quantities of water, thus impacting water resources downstream, or that work is being carried out unilaterally without

prior consent from other riparian states, seems to be the cause of many disputes. But even in these cases, dialogue and consultation remain key, and the international community acts as a facilitator.

Riparian states, especially those located downstream, have been more or less overtly raising the issue of effective control and the use of previously uncontrolled flows of shared rivers to challenge the right of third countries, generally located upstream, to develop the parts of transboundary rivers that are in their territories.

In these cases, downstream countries often tend to object to upstream projects infringing upon their “acquired rights” over water resources. This can take place in tense contexts, but dialogue and consultation can always be maintained through the international institutions or countries acting as facilitators.

To safeguard the sustainability of the agreements between states sharing a hydro system, it is crucial that water resource allocation be organized and regulated by an institution that has the necessary scientific and technical tools to ensure the fair sharing or, better yet, the integrated exploitation of the resource. An avenue to explore is whether the approach should not transcend the issue of “water sharing” and consider the prospect of sharing benefits derived from the development of resources, whether upstream or downstream.

The PED emphasizes the importance of regulating the management of water resource uses to lay the foundations for capacity building, in terms of conflict management and prevention, and the promotion of cooperation, including using hydro-diplomacy for development and peace. The PED was thus able to draw useful lessons on how to promote cooperation, both from case studies of successful water management experiences and through the regulatory framework. The lessons learned could support the implementation of a capacity-building programme to mitigate the risk of conflict and to foster interstate cooperation around shared waters. The international community should back this endeavor, which aims to equip the continent with equitable cooperation formulas for the development of available water resources with the goal of fighting poverty and strengthening food, energy, water, and environmental security.

The involvement and substantial support of the international community will also contribute to attaining the water security objective, which per UN-Water, is to ensure “the capacity of a population to safeguard sustainable access to adequate quantities and acceptable quality water for sustaining



Figure 1: Existing and planned dams.

livelihoods, human well-being, and socio-economic development, for ensuring protection against waterborne pollution and water-related disasters, and for preserving ecosystems in a climate of peace and political stability.”

The entire continent is witnessing increasing pressure on surface water, mainly in large transboundary basins. However, little is known about the available groundwater that could be used as an alternative or additional resource, not only in terms of the quantity and quality of the water available, but also about possible methods for its replenishment. The mandates of the basin organizations often at best suggest the management and sharing of groundwater. However, when integrated and managed with surface waters in a coordinated manner, aquifers can act as shock absorbers when rivers are faced with high water deficit, especially since groundwater has an improved spatial distribution compared to surface water.

One key element of water security that deserves to be strengthened in Africa today is the safety of dams. In addition to enabling the control of water and its regular allocation to users, dams are at high risk of being damaged, due to climate change and the proliferation of hotspots of tension where uncontrolled armed gangs prevail, with incalculable consequences for the riparian populations and their property. To withstand climatic extremes, existing and planned dams (Figure 1), must both be sufficiently robust and flexibly managed.

The experience of the Diama and Manantali Dams shows that these structures, co-owned by OMVS member states, have a positive impact on relations between member countries. One of the most important challenges that the OMVS faces is ensuring overall coordination, in terms of governing the basin resources. It requires a technical decision-making tool such as the OMVS Permanent Water Commission (PWC), which is an effective instrument for the fair and efficient allocation of water resources and takes into consideration variations in resource availability.

In successive or contiguous river basins, where opportunities for cooperation exist, they must be based on fair benefit-sharing arrangements.

One of the options worth considering is the concept of “mutual-interest facilities” promoted by the Niger Basin Authority (NBA). Mutual-interest facilities, as defined by the Niger Basin Water Charter, are common infrastructures at the decentralized level, co-owned by two or three countries rather than by all the countries in the basin. However, this cooperation formula has yet to be tested in practice.

Joint facilities play an important role in conflict prevention and mitigation. The Diama and Manantali Dams, co-owned by OMVS member states, play a positive role in preventing crises and help in resolving conflicts when they do arise. All member states contribute to the funding and building of OMVS facilities. This joint approach is both a partnership and a means to pool resources

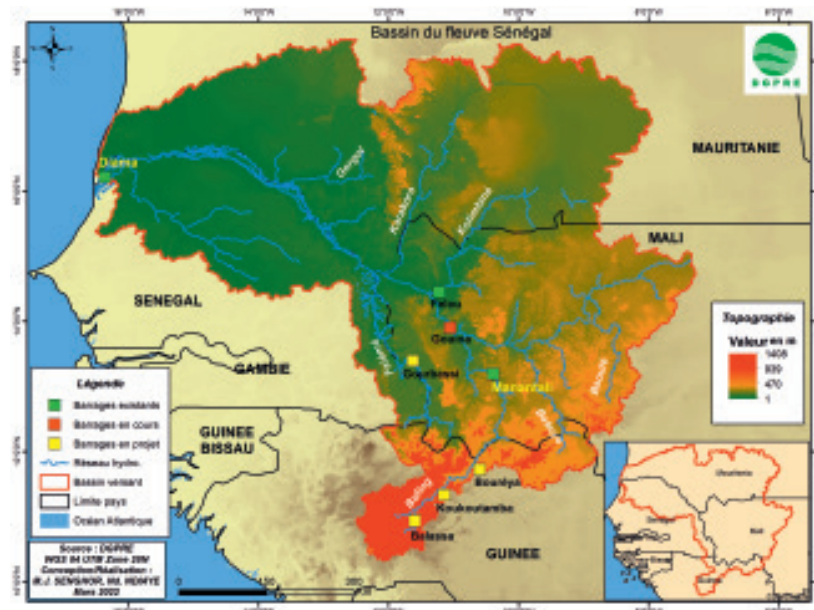


Figure 2: Groupings of transboundary basins; OMVG

that helps mobilize the critical funding, funding levels which are difficult for many African states to bear individually, necessary to build large-scale hydraulic infrastructure, such as dams. A decentralized approach is also possible in large basins where it is difficult to develop facilities that are shared by all states, where facilities are shared on a sub-basin scale and/or between neighboring countries.

Although currently seldom used, the sub-regional, regional, and international normative framework for the governance of shared waters provides an umbrella body for water management and cooperation in Africa. As illustrated in Chapter 5 of this report, both the Helsinki Convention on the Protection and Use of Transboundary Watercourses and International Lakes (1992) and the 1997 UN Convention on the Law of the Non-navigational Uses of International Watercourses (New York) contain a set of principles and provisions which aim to reduce the risk of water conflict and promote peaceful coexistence around shared waters. These principles and provisions have to a large extent inspired regional and sub-regional standards on water resources in Africa (SADC Water Protocol, ECOWAS Waterworks Directive), as well as additional basin-wide water management acts (such as the Senegal River and Niger River Water Charters). However, much remains to be done in terms of the effective implementation of the stated principles and agreed upon provisions. Two initiatives, the work on the Water Regulations within the framework of the NBA Water Charter and the nomenclature of water abstraction thresholds

subject to the declaration or authorization regime within the framework of the OMVS Water Charter, are currently being developed and will prove useful.

The integration and coordination of several basins into a single commission is also key. The OMVG serves as a perfect example. Created in 1978, the OMVG is unique in that it is responsible for coordinating not a single river basin, but three transboundary river basins in distinct, though occasionally bordering, areas. These are the Gambia, Kayanga-Géba, and Koliba-Corubal River Basins. Member states have increased their solidarity by sharing the opportunities offered by all the basins with each other. If the ambition is to promote transboundary cooperation for all the continent's shared basins, the OMVG model is an invaluable resource.

Africa has between 64 and 68 transboundary river and lake basins, covering an area of 19 million km², which amounts to two-thirds of the total surface area of the continent. Over 80% of the continent's total transboundary basin area is divided between 12 major river basins, each of which already has an effective basin organization. In other words, some 50 small basins which represent about 20% of the continent's transboundary basins have no formal cooperation frameworks. Since setting up an organization for each small transboundary basin is hardly feasible, the OMVG model of grouping several small basins under a single cooperation framework appears to be the best option (Figure 2).

Such groupings of small transboundary basins are often based on key principles of good water governance, such as cooperation, sharing, and solidarity.

In addition to promoting cooperation over the management of shared water resources, basin organizations play a central role in the prevention and resolution of conflicts over shared waters in their area. The OMVS, now considered a successful model of transboundary cooperation, rooted its action in the development of common facilities such as the Diama and Manantali Dams, that are planned, funded, executed, and managed by all riparian states. Because the states are committed to permanent consultation at the highest level, the Heads of State, they have been able to anticipate and resolve difficult situations for 50 years. In this respect, the OMVS Permanent Water Commission is an effective decision-making tool for the fair and efficient allocation of water resources, which always considers variations in resource availability.

The OMVS Convention has a legal instrument that regulates the implementation of an important principle whereby water resources are allocated according to sectors, such as human and animal consumption, agriculture, energy, navigation, ecosystem services, etc., rather than according to country. The NBA platform also plays a crucial role in ensuring two key elements. First, it guarantees the exchange of information on the various dams. Second, the platform makes sure that states impacted by a project comply with the provisions agreed upon as a prerequisite with the state promoting the project.

The Niger Basin Authority was able to act as a catalyst in facilitating the building of the Kandadji Dam in Niger, which had been pending for several years. Many basin organizations, however, are facing all sorts of difficulties, including the ability to functioning properly. When basin organizations are effective and institutionally sound, they have a greater capacity to prevent and manage conflicts, as well as promote interstate cooperation in the management of shared water resources. This should be on the radar of the international community, which could use these examples to promote such mechanisms.

Conventions are also widely used as tools for settling disputes between countries. All water resource management conventions cover interstate management. The 1992 Helsinki Convention on the Protection and Use of Transboundary Watercourses and International Lakes, the only regional convention of its kind, deals with transboundary pollution issues, urging treatment at the source to avoid transfer to other countries (Article 2). This same

convention suggests pooling together activities and management involving a specific watercourse. The 1999 London Protocol adds measures to the convention on public health through water management. The Helsinki Convention, which was initially European, was extended to include all UN member states.

The 1997 New York Convention on the Law of the Non-navigational Uses of International Watercourses regulates the use, management, and protection of watercourses by providing a flexible and comprehensive framework for cooperation. Eleven African countries have acceded to the convention. Another example is the Ramsar Convention, which is an intergovernmental treaty for the conservation and use of wetlands, based on their importance as freshwater reserves and areas of high biodiversity. These wetlands are under severe threat of losing the ecological, economic, scientific, and aesthetic services they provide. Finally, the directive on the development of hydraulic infrastructures in West Africa (2017), adopted by ECOWAS, addresses the socio-environmental impact of large dams. In fact, it marks a turn in dam construction by harmonizing impact assessment approaches while regulating fairness and transparency in the sharing of resources that stem from sectoral and regional initiatives.

The International Court of Justice (ICJ) also plays a key role in conflict resolution and prevention. To strengthen responsible and concerted interstate management of shared water resources, it would be useful to capitalize on the international jurisprudence resulting from the ICJ's settlement of a range of disputes. It is therefore in the interest of all parties that the jurisprudence stemming from dispute settlements by the ICJ be well understood and considered in international water conventions and treaties. In fact, compiling a list of such case law would be very useful.

In addition to these water resource regulation tools, science is an important ally in promoting cooperation and the allocation of shared water resources. Reliable information on water availability and use, the effects of climate change, water-related ecosystem needs, is rarely available and, where it does exist, is often vague and contradictory. Science should provide quality literature that can be used to make decisions in resource management. The multifunctional aspect of the annual flood, in terms of fish production, groundwater recharge, livestock rearing, and flood recession cropping, strongly encouraged OMVS to put in place the conditions of an annual flood (resembling pre-dam conditions as much as possible), by releasing water from the Manantali Dam when annual hydrological conditions are favorable.

The research carried out by GLOWA, IWMI, and the CGIAR in the Volta Basin demonstrated that Burkina Faso's upstream dams have had a negligible impact on the sharp decline in downstream flows in Ghana, which helped avoid unnecessary disputes. These studies also facilitated the creation of the Volta Basin Authority, which led to agreement on reservoir management that also considered the environmental concerns.

It is therefore critical to prioritize capacity building among basin organizations and states. They need to master hydro-meteorological monitoring and be able to analyze and monitor the impacts of climate change on the shared basin resources.

In sum, cooperation and the sharing of water resources are major assets in the geopolitics of water for ensuring lasting collaboration and peace. In an environment where scarcity, increasing needs, and climatic variations prevail, and where potential tensions over the use of water resources do exist, a well-planned and recognized collaboration between different states within the framework of transboundary river basins makes it possible to initiate economic and social development in a peaceful climate. Basin organizations serve as an adequate framework but must be ready to manage the remaining shared water resources. The water resource is undoubtedly a tool for promoting cooperation, peace, and development.



Chapter 3

Latin American Experiences in Transboundary Surface Water and Aquifer Cooperation

This report covers the agreement between the University of Geneva/Geneva Water Hub and Secretariat of the Organization for American States (OAS) to operate a **Hub for the Americas of the Global Observatory for Water and Peace (GOWP)** for the 2020-2021 period. In addition to the Covid pandemic, several highly relevant developments have taken place in transboundary water cooperation in the Americas during this time.

A case study was developed for the **Trifinio Cooperation Agreement**, one of the most highly rated transboundary agreements, between El Salvador, Guatemala, and Honduras. It includes lessons learned from over thirty years of cooperation. A related important issue deals with water scarcity and **drought as a driver for migration in El Salvador, Honduras, and Guatemala**. This summary focuses on the impact of climate change, vulnerability and risks for thousands of Central Americans who have been forced to migrate due to drought or storms. The impact of hurricanes Eta and Iota, that hit the same region within two weeks, is also considered.

Two other topics of high relevance in the Americas are also addressed. The first is the coming into force of the **Guarani Aquifer Agreement in South America**, which is the second largest aquifer in the world. This agreement is considered a new model of cooperation for groundwater.

Finally, an issue of critical long-term relevance is the creation of a **futures market for water** in the US, primarily California. Water will be traded like other commodities such as oil and gold in this market. Some potential implications of this market include speculative bubbles and the concern of water as a human right, backed by the United Nations.

1

Building on over fifty years of water cooperation in the Americas

The Organization for American States (OAS) is the world's oldest regional organization, which came into being formally in 1948. The organization was established to achieve "an order of peace and justice, to promote their solidarity, to strengthen their collaboration and to defend their sovereignty, their territorial integrity, and their independence" among its Member States, as stipulated by Article 1 of its Charter.

Today, the OAS brings together all thirty-five independent states of the Americas and constitutes the main political, juridical, and social governmental forum of the Western Hemisphere. In addition, it has granted observer status to sixty-nine states, as well as the European Union. The organization uses a four-pronged approach to effectively implement its essential purposes based on its main pillars: democracy, human rights, security, and development.

The OAS, through its General Secretariat, also provides critical technical assistance to its Member States in sustainable development, including water resources. For over fifty years, the General Secretariat of the OAS (GS/OAS) has been supporting its Member States in the Americas in the development of plans, policies and projects aimed at improving the management, protection, and sustainable use of the region's water resources. This effort is framed within other poverty reduction efforts and makes water resources a powerful force for regional cooperation and integration, while at the same time promoting peace, democracy, and social development. Transboundary water resources play a highly relevant role within these efforts.

As a regional associate of the Global Observatory for Water and Peace (GWOP), the GS/OAS and the Geneva Water Hub (GWH)/University of Geneva have been working together to develop a regional hub for the Americas focusing on transboundary water cooperation, within the framework of an agreement signed between the University of Geneva and the GS/OAS.

The main objectives of this endeavour are to analyse the regional situation and look for opportunities for transboundary water cooperation and/or management. One effort focuses on jointly

develop a methodology to classify, evaluate and potentially rate transboundary collaboration efforts in the Americas. A second step would be to apply this methodology to cases of interest to both the OAS and the GWOP. The initial focus is on the Northern Triangle of Central America: Guatemala, Honduras, and El Salvador). Another key issue to be explored is the close connection between drought and migration in Central America, which affects hundreds of thousands to potentially millions of people.

There are important lessons to be learned from the ongoing transboundary cooperation projects funded by the Global Environment Facility (GEF) and executed by the GS/OAS. The GS/OAS is also executing two projects in the Trifinio region: a regional GEF project of nearly \$5 million and \$84 million co-financing and a second project dealing directly with Honduras.

Central America has a long history of cooperation, dating back to the Peace Accords of 1987, from which many important lessons have been learned. The experience of the Trifinio, one of the highest ranked transboundary cooperation projects, is included in this report. The new GEF project mentioned above will deal with the management of the Rio Lempa watershed, which is shared between Honduras and El Salvador.

The GS/OAS also manages a GEF project in the Rio Plata watershed in South America, shared by Argentina, Uruguay, and Paraguay. In addition, the GS/OAS is providing technical assistance to the Secretariat of the Guarani Aquifer Accord, which is considered in this report as well.

2

The Trifinio collaboration effort

The point in the Montecristo Massif, where the territories of El Salvador, Guatemala and Honduras come together is called Trifinio. This ecological zone of some 12,000 hectares of cloud forest is one of the largest of its kind in the region. The area harbours many endangered flora and fauna, and contains mixed formations of pine, oak, liquidambar, as well as tropical dry and subtropical humid forest.

The pressures exerted by the local population, made up of close to 50,000 mostly rural people who

have few development options, caused considerable degradation to local ecosystems. There was a perceived need to protect this habitat, while providing sustainable development options to the local population.

Two important initiatives, both related to the regional peace process that concluded with the signing of the Esquipulas Agreement in 1987, were undertaken in Central America in the 1980s. One of these agreements, known as the Trifinio Plan, deals with the upper watershed of the Lempa River, shared by El Salvador, Guatemala, and Honduras. This effort clearly reveals the advances made in the management of transboundary watersheds as part of the overall pacification effort. Once the three countries formally adopted an international treaty, transboundary water cooperation has been ongoing and expanding over the last thirty years, and now includes national parks, protected areas, and aquifers. Given the framework, scope, and duration of the cooperation effort, the Trifinio experience is considered by many as one of the world's most successful examples of transboundary water cooperation.

After signing the Peace Accords in 1987, the General Secretariat of the OAS and the Inter-American Institute for Cooperation in Agriculture (IICA) provided initial technical support to develop what was known as the Trifinio Plan, which allowed for joint actions of cooperation to be carried out by the three countries. At the same time, the plan also served as an example of practical efforts being carried out in Central America towards the integration of transboundary river management and led to the establishment of international parks shared by the three countries. With the support of IUCN, a Trifinio aquifer management plan has also been developed and the GEF recently approved a project for \$5 million and \$39 million co-financing focused on management of the Lempa River.

Since the Trifinio Plan led to an international treaty, it was clearly a top-down approach promoted by the highest level and through formal diplomatic channels. At the same time, the Trifinio experience shows that there are limitations to top-down processes and that local stakeholders need to be involved in the decision-making process and at all levels.

Lessons learned from the Trifinio experience

Many important lessons have been learned through thirty-three years of experience: These are the most relevant ones:

- The experience highlights the critical importance of Integrated Water Resources Management (IWRM) and the watershed as a natural unit of planning.
- Political will at the highest level was crucial towards advancement of the goal of integrated management of transboundary watersheds.
- The establishment of a common institutional framework is indispensable for managing territories in shared basins.
- Mechanisms for coordinating specific interventions are needed and should ensure local participation in decision making, planning, and execution.
- It is critical to invest in creating local capacities for management of natural resources.
- A purely top-down approach without strong local roots can result in a lack of effective progress.
- Vulnerability and risk assessment need to be at the forefront, especially at a time when we are experiencing extreme weather events due to climate change.
- IWRM must include a variety of potential demands, including conservation and sustainable use.
- After decades of cooperation, international assistance has increased, and the countries have moved from technical cooperation to common investment programs like the recently approved GEF regional project which will provide a \$45 million grant and \$39 million of co-financing.

3 Water and migration in Central America: climate change, vulnerability, and risk

Central America is one of the regions most vulnerable to climate change in the world. The impacts of extreme weather events, including droughts and hurricanes, has affected the region for at least two decades. Climate models predict that Central America will be one of the most highly affected regions in the world, with both a warming trend and an increase in humidity over the long run.

The 2019 main harvest of the two primary subsistence crops in Central America, corn and beans, came to an end in September. For the fifth consecutive year, extreme weather events were responsible for the bad harvest. A recent article in *Scientific American* (Dec. 23, 2019) confirms that

drought has become an important factor driving migration in Central America.

Crop failures due primarily to drought in Guatemala, El Salvador, Honduras, and Nicaragua are currently causing nearly one and a half million people to need food assistance urgently, according to the World Food Program (WFP) of the United Nations. Although there are many causes for migration, including violence and crime, the WFP sees an important connection between drought and migration. Thirty percent of migrants in the affected areas cited climate-induced lack of food as the main reason for leaving their homes and becoming migrants. Emigration from these nations increased fivefold from 2010-2015. An internal report of the U.S. Customs and the Border Protection found that the overwhelming factor behind the record migration from Guatemala was a crop shortage that caused famine and increased impoverishment.

Honduras declared a state of emergency in August 2019 when nearly 75% bean and corn crops were lost. The 2018 and 2019 droughts also hit Central American coffee growers hard, since growing coffee is a fundamental part of the income of the poorest sectors of the population in the region. Small producers or coffee pickers, consisting of 1.3 million people in Guatemala, Honduras, and Nicaragua, depend on this income. The fact that there were no hurricanes in Central America in 2018 and 2019 also played an important role in the drought.

Another climate-related disruption was the fact that summer seasonal rains in 2019 were very late, and while many large areas received less than 80% of normal rainfall, other communities experienced flooding.

Human-induced climate change has strongly affected Central America in the last few decades. According to the 2014 IPCC report, rainfall declined by about 1 mm per day during the period 1950-2008 while temperatures increased by 0.7 to 1.0 degree Celsius during the four-decade period starting in the 1970s. The report also highlighted that Central America was the tropical region most affected by climate change. Even in the hotter, drier climate that is predicted, flooding remains a serious concern, because when it rains, the intensity is greater and most likely to result in destructive floods.

The *Scientific American* article points to a separate study looking at the Caribbean region from 2013-2016, which has been experiencing a devastating drought during that period found that the events “strongly suggest that climate model projected anthropogenic drying is already under

way, with major implications for the more than 43 million people currently living in this region.”

Edwin Castellanos, a Guatemalan climate expert and dean at University del Valle refers to the migratory pressures caused by climate change: “Over the past 6 years, the lack of rainfall has been our biggest problem, causing crops to fail and widespread famine.” The current rot of hot, dry years follows a decade of unusually prolonged rains. According to Castellanos: “Normal, predictable weather years are getting rarer.”

Extreme food shortages have led entire Guatemalan families to start migrating north in record numbers: since October 2018, more than 167,000 Guatemalans traveling in family groups have been apprehended at the US border, compared to 23,000 in 2016.

Impact of Hurricane Eta in November 2020

Almost exactly twenty-two years after Hurricane Mitch, another slow-moving, wet hurricane tore through Central America leaving a trail of destruction across seven countries, from Panama to southern Mexico. Hurricane Eta affected more than 2.5 million people, primarily in Honduras, Guatemala, and Nicaragua. According to the International Red Cross, Honduras was hardest hit, with 1.7 million people, nearly 20% of the total population severely affected. Women, children, and members of indigenous and Afro-American coastal communities were the most vulnerable.

These areas, already dealing with pre-existing vulnerabilities, have also been hit hard by the Covid-19 pandemic and its economic repercussions. Some of the affected countries have high levels of inequality, as well as high rates of crime and violence. These factors are known to contribute to migratory pressures.

Damage to roads and infrastructure was extensive, from Chiriquí in Panama to Southern Mexico and there is still an ongoing assessment of losses. Water supply systems have been washed away or completely inundated. Health systems have also taken a severe blow while some areas remain isolated. More than a hundred people are feared dead, while official casualties reached 72 people by November 9, 2020.

According to the United Nations Office for the Coordination of Humanitarian Assistance (OCHA), over 153,000 hectares of crops have been damaged or destroyed in Honduras, which will severely impact rural livelihoods. Rains in Guatemala also threaten staple crops which could lead to a rapid deterioration

of the food security situation. Malnutrition is prevalent among vulnerable children in both countries. More than 37,000 Hondurans are still in shelters and face urgent humanitarian needs and growing health risks, as shelters lack sufficient potable, sanitation facilities and personal protective equipment (PPE) equipment to fight the Covid-19 pandemic.

Impact of Hurricane Iota

Almost exactly two weeks after Hurricane Eta hit as a Category 4 event, Hurricane Iota, with a very similar path and characteristics of a slow-moving, wet hurricane, hit the same region of Northern Nicaragua and Honduras as a Category 5 hurricane. This was the first time ever that two hurricanes hit the same area in such a short span of time. Hurricane Iota was the 30th named storm and 13th hurricane of that season, which was the most active hurricane season ever. Iota brought considerable wind damage to coastal communities in Nicaragua and Honduras, as well as significant flooding all the way from northern Colombia to Southern Mexico. The airport at San Pedro de Sula, Honduras's main economic engine, was under more than one meter of water and the entire Atlantic lowlands of the country were affected.

This was the first time ever that two hurricanes, a Category 4 and a Category 5 hit the same area in such a short period of time.

The Guarani Accord is the first regional treaty to be modelled after the International Law Commission's Draft Articles on Transboundary Aquifers of 2008, which addresses "confined" aquifers that are outside the scope of the United Nations Watercourses Convention of 1997.

In December 2008, the UN General Assembly adopted Resolution 63/124: The Law of Transboundary Aquifers, which symbolizes the international community's recognition of the importance of transboundary aquifers and the need to regulate their use and protection. Although the resolution has no legally binding effect, it represents the first legitimized instrument by the UN General Assembly that deals with transboundary aquifers.

The draft articles of the Resolution, cover all types of aquifers and considerably broaden the standards within the United Nations. According to Article 1 of the document, the Draft Articles apply to:

- Utilization of aquifers and aquifer systems
- Other activities that have or may have impact on aquifer systems
- Measures for protection, preservation and management of aquifers or aquifer systems

The main purpose of this Resolution was to encourage states to include transboundary aquifers in their agendas and to establish bilateral or regional agreements on this subject. The Resolution contributed, in terms of political and technical incentives, to the signing of the Guarani Aquifer Agreement in 2010.

The signing of the Agreement may have been influenced by several events: the end of the Guarani Aquifer Project, which provided an important technical foundation, the presentation of the Resolution 63/124 in the UN General Assembly, and the April 2010 ruling of the International Court of Justice in the case of the pulp mills in the Uruguay River between Uruguay and Argentina.

The Accord has provisions for the exchange of scientific and technical information, notification and consultation, direct negotiations, referral to a joint Commission once the Accord enters into force, for evaluation and recommendations in case of a dispute, and the option of a subsequent arbitration protocol to be negotiated in the future.

Taken together, the procedural requirements and the provisions of the Accord favour diplomatic and political resolutions of future disputes over the use or protection of water, and they may forestall the need to resort to litigation in international courts or tribunals, which is both costly and lengthy. The Guarani Aquifer Accord was originally signed in

4 Guarani Aquifer Accord enters into force

Groundwater was not considered a priority in international law for far too long, with groundwater resources either addressed incidentally or indirectly as part of surface waters, or not mentioned at all.

The Guarani Aquifer Accord signed a decade ago between Argentina, Brazil, Paraguay, and Uruguay represents a plan for the multiple, sustainable, equitable and reasonable use of the water of the Guarani Aquifer System, the second largest in the world. It pledges to prevent significant harm to this vast and unique natural resource located in these four countries in South America. The accord is highly significant because it is one of the few transboundary water agreements that has not arisen out of conflict, but rather, it was signed in a preventive mode.

Santa Fe, Argentina on August 2, 2010. It entered into force on November 26, 2020.

5 Water futures start trading on Wall Street

Water is now traded as a commodity, like gold or oil. The world's first water futures market launched on the Chicago Mercantile Exchange on December 8, 2020. The first week of trading reached \$1.1 billion in contracts tied to water prices in California. Concerns about water scarcity are at the heart of this new market, which will allow farmers, hedge funds and municipalities to hedge bets on the future price of water and water availability in the American West.

The trading mechanism, announced in September was prompted by the region's worsening heat, drought, and wildfires fuelled by climate change. "Climate change, droughts, population growth and pollution are likely to make water scarcity and pricing a hot topic for years to come," said Deanne Dray of RBC Capital Markets. "We are definitely going to watch how these new water futures contracts develop."

Proponents argue that the new market will clear up some uncertainty around water prices for farmers and municipalities, helping them budget for the resource. Other experts argue that treating water as a tradeable commodity puts a basic human right in the hands of financial institutions and investors, a potentially dangerous arrangement as climate change disrupts precipitation patterns and increases water scarcity.

Pedro Arrojo-Agudo, a UN expert on water and human rights, expressed concern about the creation of the water futures market, saying it could invite speculation from financiers who would trade it like commodities such as oil or gold. "You can't put a value on water as you do with other traded

commodities. Water belongs to everyone and is a public good. It is closely tied to all our lives and livelihoods, and is an essential component to public health," said Arrojo-Agudo, who is Special Rapporteur on the right to safe drinking water and sanitation for the United Nations. "Water is indeed a vital resource for the economy -both at the large and small-scale - but the value of water is more than that. Water has a set of vital values for our society that the market logic does not recognize, cannot manage adequately, let alone in a financial space so prone to speculation."

"The commoditization of water, now supported by a futures market, poses the threat that if it is not properly regulated could lead to speculation and market "bubbles" that could impact real lives and ecosystems. The human right to safe drinking water was first recognized by the UN General Assembly and the Human Rights Council in 2010.

The futures contract is based on an index that tracks prices for water rights leases and sales in California. Trades settle in money, not physical water, meaning water users cannot use the contract to solve real-world shortages. When the California water futures market launched in December 2020, three-quarters of the state was under severe drought, and spot water prices were on the rise. By April 2021, the drought had deepened and cash prices for water in California's Central Valley had nearly doubled. Yet the futures contract failed to attract much interest. Trading volumes and general interest have since eroded further. Most of the trading occurred in the first month and a record 52 contracts were traded on February 10, 2021. Volume has dwindled, from an average of 13 contracts per day in February 2021 to fewer than three in June 2021.

A critical issue for farmers is that this market is a cash-settled contract, meaning that money and not physical water is delivered upon contract expiration or exercise. "The problem at this moment and why farmers themselves have not participated is because it is not trading actual water" notes Sarah Woolf, president of Fresno-based consultancy Water Wise.

"Fifth Straight Year of Central American Drought Helps Fuel Migration" Scientific American, Dec. 23, 2011

Pilar Carolina Villar and Wagner Costa Ribeiro

"The Agreement on the Guarani Aquifer: a new paradigm for transboundary water management?" Water International, Vol 36, No. 5 September 2011, Pages 646-660



Chapter 4

Central Asia: Translating newly Emerging Political Will into concrete steps to address New Regional Challenges

Introduction and Context

Water is precious, fragile, and dangerous. Central Asia's history is largely the story of overcoming water challenges and harnessing its potential for societies, cultures, and economies to flourish. Great Central Asian empires developed irrigation as far back as the 6th millennium BCE. Water is still the most important strategic resource of the region in the 21st century, with the land-water nexus acting as the key driver for food, energy, and environmental security to foster and sustain social stability and peace. Over 8 million hectares of irrigated agriculture contribute 20 percent of GDP and employ 40 percent of the total population. Forty-five large hydropower stations in the region generate 37 GWh/year of hydroelectricity that helps drive the economy.

Water must be valued and governed adequately because if mismanaged it has the power to harm, divide or even destroy societies. The Covid-19 pandemic has again shown the centrality of water as a global lifesaver, but also as a potential cause of the next pandemic. In Central Asia and globally, the effects of climate disruption will be felt primarily through water, including droughts, floods, and glacial melting. Paradoxically, despite its vital importance, water is highly undervalued, leading to a vicious cycle of inadequate investment, low performance, fragmentation, and piecemeal responses. Although regional and basin water institutions may be unable to rise to the challenges of the 21st century, they are important tools for water diplomacy. As the Global High-Level Panel on Water and Peace underlined in its report, we need to fundamentally rethink our approach to water, as a matter of survival. Since ancient times water has been a catalyst and connector across communities, sectors, and boundaries. Although it can also be a conveyor of natural and man-made disasters, it is above all a powerful tool for cooperation, prosperity, and peace, and can turn 21st century's risks into opportunities, both in Central Asia and globally.

For three decades, tensions and controversies over shared water resources in the Aral Sea Basin have been a major stumbling block for regional cooperation for over three decades. This holds back economic growth in Central Asian countries and hinders joint action in addressing strategic challenges, including adapting to climate change, improving resilience, disaster preparedness and supporting a green recovery. In recent years, several interconnected processes, such as the rapid growth of water-related investments and virtual water trade with countries in Eurasia, East, and South Asia, as well as the historic rapprochement between Tajikistan and Uzbekistan, have been driving geopolitical and socio-economic changes. Central Asian countries are moving towards a more pragmatic approach on transboundary water issues than in previous years when there was higher competition over water allocation. Central Asia's water footprint increasingly extends well beyond the Aral Sea basin with the rapid growth of the virtual water trade and with the greater recognition of the value of water as an instrument of peace and security at all levels in Central Asia and beyond.

Indeed, security and stability in Central Asia is critical to China, Russia, the European Union, and others, not only for the safety and protection of their own investments in the region but also because of the almost inevitable spill over effects that arise from insecurity and instability. Since transboundary rivers inextricably link countries, economic problems, and instability in one part of a river basin may become strategic challenges for other riparians and beyond, especially since Central Asia depends heavily on geoeconomics developments elsewhere in Eurasia. But while socio-economic tensions created by the sanitary and economic crises in 2020-21 could rekindle disputes over water, an integrated, multi-level and multi-sectoral regional cooperation framework across the water-energy-food nexus could become a driver of sustainable socio-economic recovery in Central Asia and beyond.

In fact, the fundamental changes to the water-energy-food nexus in recent years are a far less publicized, but likely game-changing in Central Asia that could contribute to the emergence of more diversified, inclusive, and greener economies in the region. On the one hand, boosted by the approval of a new CAREC¹ regional energy strategy in Tashkent in November 2019, future intra- and inter-regional power interconnections to Eurasia and South Asia such as CASA-1000² and TUTAP³ could mitigate the sectoral and seasonal conflict that has defined relationships between upstream and downstream countries since the end of the Soviet Union by better aligning hydropower and irrigation water use in the summer. On the other hand, irrigation water needs are decreasing as Central Asia is improving its water efficiency and firmly moving towards high-value agriculture and horticulture where it enjoys a tremendous comparative advantage and global high-end export potential, including in the European Union, Russia, and in neighbouring countries as well as China's \$6 billion fruit import market. These changes will likely accelerate thanks to Uzbekistan's historic decision in March 2020 to abolish century-old quota systems for cotton crops.

For decades, slow progress in improving regional cooperation on water in Central Asia has been explained by the lack of political will. However, the appearance of political will following the August 2018 IFAS Summit in

¹
The ADB-managed *Central Asia Regional Economic Cooperation (CAREC)* Program comprises the following 11 countries: Afghanistan, Azerbaijan, China, Georgia, Kazakhstan, the Kyrgyz Republic, Mongolia, Pakistan, Tajikistan, Turkmenistan, and Uzbekistan. See <https://www.adb.org/news/new-regional-energy-strategy-maps-path-secure-energy-future-carec-region>.

²
The Central Asia-South Asia power project (CASA-1000) is a \$1.16 billion project currently under construction that will allow for the export of surplus hydroelectricity from Kyrgyzstan and Tajikistan to Afghanistan and Pakistan.

³
The *Turkmenistan-Uzbekistan-Tajikistan-Afghanistan-Pakistan (TUTAP)* power interconnection project aims to export power from Turkmenistan to Afghanistan and Pakistan.

Turkmenistan has not yet led to a breakthrough in regional cooperation on water. The offer by some downstream countries to participate in the building of new large HPS in upstream countries has not led to significant progress either. As it turns out, improvement of water cooperation, among others, depends on the resolution of economic, institutional, and strategic issues that place serious constraints on decision making (Krasznai, 2020).

Indeed, recent studies emphasize that “till today, not much progress has been made in the elaboration and introduction of economic relationships in the sphere of management and use of water and that it is necessary to find political, economic, organizational, legal and financial solutions for the mutually advantageous and equitable use of water resources in the region” (SIC-ICWC, 2019). Most of these studies concede that it is these interlinked national and regional water governance challenges, economic constraints, institutional weaknesses, and strategic pressures that prevent governments from making more rapid progress towards the efficient and rational use of water resources. The approach to transboundary water cooperation in Central Asia has so far been one of advancing technical cooperation in the joint management of a shared water resource. New approaches and ways of working are thus needed to make water resources management central to socioeconomic development.

Water as an Instrument of Peace and Prosperity and Conflict Prevention: Highlights in the Review Period 2019-2021

In Central Asia, hydropolitics during the 2019–2021 period have been characterized by the continuation of mostly positive trends. However, the covid-19 crisis has triggered an unprecedented economic recession, which could be further aggravated by geoeconomic developments in the Eurasian region. But increased pressure to take strategic decisions in the wake of the crisis to accelerate economic recovery may help achieve breakthroughs on issues that have hindered progress for decades; the window of opportunity has perhaps never been greater to harness water as a driver of sustainable economic recovery, long-term security and peace.

- **Regional hydropolitics continued the positive trends and encouraging water cooperation discourses** as shown at the May 2019 **Astana Economic Forum** in Kazakhstan, at the June 2019 **Shanghai Cooperation Organisation’s Summit** in Bishkek, Kyrgyzstan, and at the **Second Consultative Meeting of the Heads of State of Central Asia** in November 2019 in Tashkent, Uzbekistan. Unfortunately, the Second Dushanbe Water Action Decade Conference planned to be held in June 2020 was cancelled due to the pandemic.
- **Perhaps the most emblematic development of the period was the response to the collapse of the Sardoba Dam in May 2020.** When the symbol of an era of low cooperation was damaged, it triggered a remarkable process of rapid hydro-diplomacy between Uzbekistan and Kazakhstan, which was supported by many other countries in the region and beyond. The noteworthy response by both countries was an illustrative demonstration of political will on how to cooperatively manage bilateral crisis, boosting the positive collaboration dynamics in the region, and demonstrating how water can be used as an instrument of regional cooperation and peace.
- **In January 2020 Tajikistan and Uzbekistan reached an agreement on the joint construction of two hydropower plants in Tajikistan** on the transboundary Zarafshan River, mainly for the needs of Uzbekistan – a prospect which would have been unthinkable just a few years ago, though financing is currently lacking.
- **In September 2019, the second hydroelectric unit of the Roghun Hydropower Project in**

Tajikistan was launched, but the pandemic is putting the project's financial viability in even greater risk, potentially of bankruptcy. Making the Rogun project economically and financially sustainable is thus of key importance, if the Government wants to preserve social and economic stability in the present period of economic recession and increasing poverty due to the pandemic.

- **The establishment of full control over Afghanistan by the Taliban in mid-August 2021** greatly complicates efforts to expand cooperation with Central Asian countries in the water and energy sectors. Since thus far only a few countries have established diplomatic relations with the new government, the implementation of ambitious regional projects like the Central Asia - South Asia (CASA)-1000 electricity transmission line, as well as projects by FAO and other international development partners to modernize irrigation infrastructure may suffer delays. This may negatively influence stability and security in Afghanistan where water disputes are the second leading cause of conflict after land. At the same time, several Central Asian countries have managed to establish contacts and cooperation with the new leadership in Kabul, which will offer an opportunity for early efforts to reinvigorate cooperation in the water and energy sectors.

1.1. Regional Hydropolitics: Key Developments in 2019-2020

- **On 17 May 2019 in Nur-Sultan, Kazakhstan, a high-level panel session of the XII Astana Economic Forum⁴ discussed the national needs and visions towards sustainable water management through the regional lens**, in the framework of the Blue Peace Central Asia Initiative. The panel session, chaired by the Minister of Agriculture of Kazakhstan and moderated by the Swiss Special Envoy for Water in Central Asia, convened high-level officials from key ministries of the five countries of Central Asia, as well as international experts from the World Bank, the European Union, and the Geneva Water Hub. Experts believe that Central Asia is the region which would gain the most from implementing forward-looking water management approaches, increased water productivity, and enhanced and systemic

transboundary water cooperation, based on strengthened national water resources management capacities.

During the event, Kazakh Vice-Minister of Agriculture Nyssanbayev spoke about the main steps needed to create an international water and energy consortium in Central Asia. The first step was to discuss the development of a concept for creating a new financial and economic mechanism for interaction among countries in the Aral Sea basin, with the support of international partners. The panel session was the first step towards developing a common vision on water security in Central Asia, where strengthened national water resources management and systemic transboundary water cooperation will generate multiple benefits for all the countries, based on the principles of common management of shared resources (IWAC, 2019).

- **On 14 June 2019 in Bishkek, Kyrgyzstan, the Shanghai Cooperation Organisation (SCO) Summit made a strong call for sustainable water resource management in the region and beyond.** The Bishkek Declaration, adopted at the meeting, called on Member States to “consider the sustainable development and effective management of water resources to be an important and urgent task, one of particular importance for the preservation of the natural environment, ecosystems and biodiversity, and for the achievement of the social Sustainable Development Goals. The Member States consider it important to utilise the potential of the region’s countries, international organisations, and multilateral associations to create a space in Eurasia for broad, open, mutually beneficial and equitable cooperation aimed at providing stable security and sustainable development”.

The SCO should be given more attention since China and Russia, the two regional hegemon, increasingly turn their attention to Central Asia and use the SCO as a platform to balance and coordinate their interests in the Central Asian region. The SCO is also of strategic and political relevance for its Central Asian members, which lack alternative inclusive cooperation platforms.

4

See more details in **Hydro-diplomacy in Rapid Action: Early Insights from the Sardoba Dam Disaster in Central Asia**, Strategic Foresight Discussion Note of the Global Observatory for Water and Peace at <https://www.genevawaterhub.org/news/hydrodiplomacy-rapid-action-early-insights-sardoba-dam-disaster-central-asia>

- **On 29 November 2019 in Tashkent, Uzbekistan, the Second Consultative Meeting of the Heads of State of Central Asia concluded with** encouraging statements on regional water cooperation:
 - The Kyrgyz Head of State Jeenbekov, while recalling that 45% of the region's water resources are formed in Kyrgyzstan, called for the resumption of cooperation within the framework of the 1998 regional water-energy agreement that provides upstream countries with a compensation mechanism for the services they provide to downstream countries, including a comprehensive reform of IFAS.
 - President Rahmon of Tajikistan, stated that up to 60% of regional water resources are formed in Tajikistan, also called for the effective use of the region's water and energy potential, and for the need for coordinated actions in integrated water resources management, including within the framework of IFAS.
 - Uzbekistan President Mirziyoyev called for finding a mutually acceptable solution to the urgent problems of shared water use, and complex water and environmental problems notably by using innovative technologies and implementing the principles of the "green economy," leveraging the UN Trust Fund for the Aral Sea.

These meetings could become an enabling platform for long-term strategic coordination, to increase trust and jointly develop a long-term strategic vision and its legal, financial, and institutional instruments.

1.2. Hydro-diplomacy in Rapid Action between Kazakhstan and Uzbekistan after the Sardoba Dam Disaster ⁵

On May 1, 2020, following several days of inclement weather, a dam wall at the Sardoba reservoir in Uzbekistan collapsed. An estimated half billion m³ of water poured through a breach onto villages and cotton fields, causing the evacuation of more than 110,000 people and affecting more than 35,000 hectares of land in Uzbekistan and Kazakhstan (see pictures). Fortunately, the breach did not cause the entire dam to collapse. The Sardoba reservoir was built in the so-called Hungry Steppe which is naturally arid but was transformed during the Soviet era into an intensely irrigated agricultural area that straddles Uzbekistan, Kazakhstan, and Tajikistan. The reservoir is the result of the limited regional water cooperation that prevailed in the 25 years

after the collapse of Soviet Central Asia's integrated water-energy management systems, causing downstream countries to implement strategies to minimize dependence on their neighbours, notably by building "buffer reservoirs" such as Sardoba that made their water supply less dependent on dam release regimes from upstream countries.

Given its recent completion in 2017, the dam failure was suspected to be rooted either in design or construction flaws; the Prosecutor General's Office concluded in July 2020 that the building materials were of inferior quality. Uzbek President Mirziyoyev himself pointed out that corruption in the construction of the reservoir could be the cause of the disaster. Indeed, the dam was constructed during an era marred by grand corruption scandals, and many large infrastructure projects in Central Asia have often been criticised for lack of transparency in procurement and for side-stepping regulations and standards.

However, despite the Covid-19 crisis, and despite a history of water mismanagement and regional tensions in the Syr Darya river basin, both Uzbekistan and Kazakhstan managed not only to cooperate over the immediate recovery, but also to strengthen neighbourly relations, and even take further steps towards joint management of the shared basin. Indeed, only three weeks after the disaster, it was reported that the countries had agreed to formulate a roadmap on water cooperation, to develop an intergovernmental agreement and to establish a permanent bilateral Commission on the joint management, use and protection of transboundary water bodies.

The draft agreement is consistent with the UNECE Water Convention that Kazakhstan and Uzbekistan acceded in 2001 and 2007, respectively, which states that parties "shall take all appropriate measures to prevent, control and reduce any transboundary impact and ensure that transboundary waters are used in a reasonable and equitable way."

A first important milestone was reached on July 2, 2020, with the signing of a joint roadmap for transboundary water management (see picture).

Kazakhstan and Uzbekistan thus effectively turned water from a potential source of conflict into an opportunity for cooperation and peace, putting in practice several key recommendations of the Global High-Level Panel on Water and Peace. The Sardoba dam

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See more details in [Hydro-diplomacy in Rapid Action: Early Insights from the Sardoba Dam Disaster in Central Asia](#), Strategic Foresight Discussion Note of the Global Observatory for Water and Peace at [\(add GWH website when available\)](#).

disaster could become a watershed in reshaping the transboundary water dynamics in Central Asia, which are central to the Covid-19 response and recovery.

The Sardoba dam disaster also raises several questions at the strategic and systemic level that are relevant locally, regionally, and globally, as reconstruction options are contemplated, and new transboundary water infrastructure is planned elsewhere in Central Asia. They include:

- **Making strategic investment decisions more efficient, better accounting for the socio-economic value of storing water.** Though siting and hydrological sizing of reservoirs are highly strategic issues, they often result more from internal hydropolitics rather than from publicly discussed decision-making based on sound technical, economic/financial, and socio-environmental analyses. From a regional standpoint, the Sardoba reservoir's location, size and spatial configuration are highly inefficient from the technical and economic standpoint. National solutions such as Sardoba are very costly since infrastructure is duplicated and capital is misallocated from a regional point of view. While these downstream, shallow reservoirs are useful to alleviate the consequences of non-cooperation, they also produce huge water losses, don't produce electricity and are not useful when it comes to multi-year regulating capacity.
- **Balancing green and grey infrastructure solutions** as interest for nature-based solutions have grown because the option of building more surface water reservoirs is increasingly limited, risky, controversial and/or inefficient. Studies have shown the potential of *Groundwater-based Natural Infrastructure* to store water in downstream countries, notably in the Ferghana Valley, especially as Uzbekistan's historic decision in March 2020 to abolish the 100-year-old cotton quota system increases interest for groundwater irrigation. Achieving a balance between a more locally based, circular water economy, and broader economic efficiency objectives should help boost confidence and trust at all levels, leading to increasingly wide-ranging cooperation.
- **Moving towards smarter joint investment planning** to avoid piecemeal, inefficient, and potentially risky designs, for the highest socio-economic gain and the lowest environmental impact, as the Global High-Level Panel on Water and Peace also recommended. A smart regional investment concept for the Central Asian region for the period up to 2050 would serve as a road map for negotiations on concrete investment projects, help optimal coordination and sequencing of investments to avoid the emergence of extreme water stress. Participation of water, energy, environmental, economic, and financial experts, international development partners, as well as strategic planners would guarantee that the concept considers the long-term effects of climate change, is based on future needs of economies and societies, and acknowledges the strategic importance of the water sector for the security and stability of the region.
- **Strengthening the science-policy interface for improved policy making** to facilitate negotiations between concerned parties while ensuring stakeholders' participation and knowledge diversification, helping tip the balance away from potential conflicts towards cooperation potential. As transboundary water infrastructures are a matter of foreign policy, they are typically only one of the components of the negotiations; a credible systemic analysis should therefore link water with other aspects such as trade, migration policy, energy markets and socio-economic development.
- **Factoring dam safety as a growing concern for water, security, and peace globally and regionally**, with on the one hand, the fast growth of new dam constructions in low-capacity countries, and on the other hand the growing number of dams in need of expensive rehabilitation or decommissioning. Dams symbolizes different aspects of water; - as precious but dangerous, as an instrument of peace and prosperity but also as a potential cause of hardship and conflicts during all its stages: design, construction, and operation.
- **Developing capacity and policy for dam safety cooperation in Central Asia and globally.** Fortunately, steps in this direction have been taken recently in Central Asia, notably the establishment of the International Dam Safety Training Centre in Taraz, Kazakhstan in 2018, with support from UNECE and the Russian Federation. It is vital to enhance dam safety by introducing innovative technologies that improve the monitoring and forecasting of hydrological processes and extremes, as well as dam safety and stability.
- **Harnessing digitalisation potentials for the monitoring of transboundary agreements, data transparency, and exchange.** Data necessary for water resources management are often insufficient and, when they exist, they are difficult to exploit because they are produced and managed by various

organizations working in different sectors or countries with little coordination. In this regard, the accelerating digital transformation offers new opportunities for innovative water information systems.⁶ Innovations in remote sensing could transform water management, governance, financing, and diplomacy in intersectoral and transboundary contexts, especially where conventional in-situ methods are neither feasible nor practical.

- **Developing legal and financial instruments for sustainable dam construction and management.** Globally and in Central Asia, design, construction, and management of large water infrastructure including dams are not regulated by legal instruments and are instead guided by a set of binding and non-binding standards and guidelines. These include procurement, social, and environmental policies and various norms and guidelines. But because large water infrastructure has a wide-ranging impact across boundaries, sectors and generations, the lack of legal instruments makes it difficult to promote compliance and to attract financing and can contribute to tensions or even conflicts. To help address these issues, the Global High-Level Panel on Water and Peace called for strengthening legal and financial instruments for transboundary water cooperation including by creating financial and other incentives, encouraging riparian countries to undertake Joint Investment Plans⁷, encouraging the use of the Global Water Conventions, and addressing the problem of preparing bankable projects by providing a neutral, independent “safe space.”

Beyond site-specific issues of governance, compliance, and possible corruption schemes in the construction of the reservoir, addressing the root causes of the Sardoba dam disaster will require regional solutions. Indeed, while the construction of such “counter-balancing” reservoirs was meant to reduce the vulnerability of downstream countries to irrigation shortfalls by capturing winter flows (Adelphi & CAREC, 2017), these reservoirs in fact do not sufficiently protect against inter-annual variability

and droughts. They lead to greater evaporative losses than reservoirs further upstream which are more economically efficient.

The Sardoba dam is indeed a symbol of the unilateral, piecemeal responses of a low regional cooperation era that cannot address existing or future needs and challenges. Holistic and participatory approaches are needed instead which enable the identification of workable and acceptable solutions. Future directions also must be informed by and build upon innovative thinking and good practices around the globe.

1.3. Transboundary Water Cooperation between Tajikistan and Uzbekistan in the Zarafshan Valley

An exciting Uzbek hydropower project is not happening inside Uzbekistan itself. Since President Karimov’s death, tensions over water have abated, and Tashkent has resumed supplying Dushanbe with gas. On January 28, 2020, Tajikistan and Uzbekistan reached a promising agreement on the joint construction of two hydropower plants (totalling 275 MW) to supply nearby Uzbek areas on the Zarafshan River which flows from Tajikistan into Uzbekistan near Samarkand.

The parties discussed potential equity participation in the construction and operation of hydropower plants (HPP). After reaching common agreements, an Electricity Purchase Agreement and Project Feasibility Study will be prepared. However, it is unclear how the project will be financed, considering the severe budget constraints facing Uzbekistan and especially Tajikistan which is in grave danger of defaulting on its EUR 500 million commercial loan to finance Roghun HPP (see section 2.4. below). There is an expectation of significant Chinese financing since Beijing has been eyeing the potential of the Zarafshan River since the 1990s. In 2007, Tajik President Rahmon signed a deal with Sinohydro to build both dams as part of a \$1 billion investment package secured during a visit to Beijing. But the project never materialized, probably due to Uzbekistan’s opposition at that time.

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See details in GOWP Document on Digital Transformation Challenges and Opportunities for River Basin Organisations at <https://www.genevawaterhub.org/news/digital-transformation-challenges-and-opportunities-west-african-river-basin-development>

⁷

West Africa provides inspiring examples of Joint Investment Plans underpinned by common rules and backed by legal and financial instruments at the basin level. In Central Asia, attempts to establish a joint mechanism for the region in the form of an International Water-Energy Consortium have repeatedly failed in the last twenty years. This may be due to the fact that implementing common standards and rules also imply greater transparency and accountability, a particular challenge in view of the prevailing national and regional hydropolitics.

Following the rapprochement between Tajikistan and Uzbekistan (both countries engaged in joint military exercises in March 2020), C China is now overseeing cooperation between Tajikistan and Uzbekistan on the two-stage, \$550 million Zarafshan project. Tajikistan will get more gas from Uzbekistan, and Uzbekistan will get the electricity generated by the dams, as well as a say in the water-release schedule. China gets to play a new role as arbiter of the friendship of the peoples in Russia's backyard (EurasiaNet, 2020). The fact that the two sides are even talking about the \$550 million project underscores profound changes that occurred over the past three years. Before that, the neighbours hardly spoke and hardly traded.

Indeed, cooperation on water and energy offers Central Asian countries plenty of trade complementarities. Kyrgyzstan and Tajikistan lack hydrocarbon reserves but possess significant hydropower potential. Kazakhstan, Turkmenistan and to a lesser extent Uzbekistan have huge reserves of oil and natural gas, but few mountainous rivers. Afghanistan has limited resources of both. As downstream and upstream riparians of the Aral Sea basin increase cooperation, they are in fact resurrecting a Soviet system but on different economic and commercial terms. This renewed collaboration demonstrates the power of water to prevent conflict and foster peace.

1.4. The Roghun Hydropower Project in Tajikistan: Water as a Potential Source of Conflict or as an Instrument of Prosperity and Peace?

The construction of the Roghun hydropower project has for a long time been a flash point of conflict over water resources in Central Asia. At 335 meters, it would be the highest dam in the world. Its construction started in 1976 but stopped after the collapse of the Soviet Union in 1991. Tajikistan then immediately plunged into a bloody civil war that devastated the country, ending in the peace agreement of 1997. Roghun became a national goal that would unite and consolidate society and turn Tajikistan into a major exporter of electricity.

But Uzbekistan strongly opposed Tajikistan's attempts to resume its construction, fearing that Dushanbe would strengthen control over water resources. The late President Karimov famously

went as far as suggesting war over water in the region. After President Mirziyoyev came to power in Uzbekistan in late 2016, the rhetoric changed in favour of mending ties between Tashkent and Dushanbe. In 2018 during the first visit to Tajikistan by an Uzbek leader since 2000, the two sides even suggested Uzbek involvement in the Roghun project.

In this context, the launch of the first turbine in November 2018 followed by the second unit on in September 2019 – more than 40 years in the making – was a major achievement and cause for celebration. But even if the regional hydropolitics have vastly improved since 2017, many of the previous spoilers remain in play. Natural disasters, political instability and most crucially, funding issues could all derail the next phases of the project, optimistically scheduled to achieve full operational capacity in 2028. (As of mid-2020, 75 m out of the total 335 m in height have been erected, see picture).

What worries the international financial institutions and investors is that Roghun is consuming so much of the state's resources that the latter will be unable to meet its obligations and will default on its first ever international bond.⁸ The World Bank wrote that “the pursuit of the continued borrowing for the Roghun HPP could risk debt sustainability and threaten the country's economic and social stability.” Indeed, while transboundary tensions have diminished, the economic impact of the pandemic on Roghun will be very serious, compounded by a sharp reduction in remittances from Tajik labour migrants, primarily from Russia (which make up 40% of Tajikistan's GDP).

Making the Roghun project economically and financially sustainable is thus of key importance, if the government wants to preserve social and economic stability during this period of economic recession and increasing poverty due to the pandemic. It is therefore crucial for water to remain an instrument of peace that the international community, and Tajikistan's neighbours China and Russia, can engage constructively to find solutions, notably a realistic financing plan that safeguards Tajikistan's vulnerable population and prevents a potential social explosion.

Clearly, unilateral approaches are risky and unsustainable from the financial, water management, peace, and security standpoints. Financing costs could be brought down, and project design and

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For example, the analytical arm of Raiffeisen Bank International (RBI) said in December 2019 that “in 2019 the Tajik bond was the worst-performing among all emerging markets with the yield swelling by 265 basis points to 10.7%, revealing mounting concerns about insufficient funding. Total costs of the Roghun plant's construction are said to be at around 50% of Tajikistan's annual GDP spread during 2017-2027. As such, the scepticism shown by the World Bank and other international lenders about the Roghun project's viability further fuels negative outlooks on its implementation risks.”

implementation procedures accelerated through an international consortium approach that would foster transparency and accountability. It could also involve incentivizing water cooperation and sharing of risk through blended debt financing and equity participation from both upstream and downstream riparians, international and commercial partners, in line with the recommendations of the Global High-Level Panel on Water and Peace.

1.5. Fostering Water Cooperation from Local to Transboundary Levels to Prevent Conflict and Foster Peace in Afghanistan

Afghanistan's President Ashraf Ghani on February 6, 2020, officially launched works on the Central Asia - South Asia (CASA)-1000 electricity transmission project, after several years of mainly procurement-related delays. "Economic cooperation is in the interest of all member countries, our vision is to transform Afghanistan into a crossroads of energy transit in the region," said Ghani at the event. Under the \$1.2 billion regional project, Kyrgyzstan and Tajikistan will jointly supply 1,300 MW of hydropower to Pakistan via Afghanistan during the summer months, with Afghanistan benefiting from energy transit fees. To ensure benefits to communities situated along the new transmission line, the World Bank has initiated community support projects in all four countries by investing in local-level infrastructure upgrades.

The takeover of Afghanistan by the Taliban in mid-August 2021 greatly complicates the continuation of the long-term process of building peace and stability in the broader region through strengthened cooperation in the water sector. But there is no alternative to the continuation of these efforts. "To stave off further instability and protect the Afghan population from greater suffering, the Taliban and regional and international powers must engage in greater diplomacy, take risks, and make difficult compromises. There is no moral high ground in policies that lead to the starving of the Afghan population."⁹

If left unattended, water issues at all levels could spur conflict within Afghanistan or between

Afghanistan and its neighbours, with which it shares most of its river basins. But climate change, environmental degradation, inadequate management, and increased demand are compounding water insecurity and driving conflict at the local level. In 2018, Afghanistan had more displacements induced by water-related disasters such as floods and droughts (435,000) than displacements caused by conflict and violence (372,000).¹⁰ Afghanistan experienced its worst drought in decades in 2018, which triggered more than 371,000 displacements. Its impacts continued in 2019 as poor harvests increased food insecurity across the country. In 2019, floods triggered around 111,000 new displacements.

Despite the support provided by the international community, Afghanistan's irrigation network and water storage capacities, which had been degraded by decades of war, are still suffering from underinvestment and inadequate management. Water management systems have to tackle three interrelated challenges¹¹: (i) managing increased demand for water resulting from fast population growth and economic development, (ii) reducing the risk of water-related disasters as droughts and floods are a feature of life in Afghanistan, and (iii) restoring and building water infrastructure which could generate significant tensions across international and internal borders as Afghanistan's major rivers flow into neighbouring, water scarce countries.

Shared resources and similar challenges faced by the water sectors of Central Asia and Afghanistan provide a solid basis for cooperation, including the development and implementation of a broader regional strategy on water and energy. While most countries have no diplomatic relations with the government in Kabul, several Central Asian countries managed to preserve trade, economic ties, and channels of communication with Afghanistan. This would allow Central Asia to explore possibilities of gradually engaging Afghanistan in water and energy cooperation. In view of the acute lack of expertise on both sides, the first step should be human capacity building. Earlier cooperation programmes between Afghanistan and several Central Asian countries provide a solid basis for the continued involvement of students and researchers in programmes

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Rina Amiri, Senior Fellow at New York University Center on International Cooperation, previously Senior Advisor to the US Special Representative for Afghanistan and Pakistan, Foreign Affairs (online), Nov. 9, 2021

10

See <https://www.internal-displacement.org/countries/afghanistan>

11

See https://postconflict.unep.ch/publications/UNEP_Afghanistan_NRM_guidance_chart.pdf

implemented in Central Asia with participation from local universities and research institutes. The next step could be an invitation to Afghan water and energy experts to join platforms for exchange of experiences and sharing best practices. Cooperation in building human capacity could pave the way for more substantive joint projects when the time and conditions are ripe for it.

It is notable that there are no formal water agreements or dialogue processes between Afghanistan and its neighbours, apart from an Iran-Afghanistan treaty on the Helmand River dating back to 1973. Transboundary water management should therefore be improved in line with the UN International Watercourses Convention by negotiating smart water agreements including joint investment plans, sharing of data, building confidence, and mediating disputes. Restarting the work on the legal and institutional strengthening of regional cooperation on water, the reform of the International Fund for Saving the Aral Sea, mandated in 2009 by the IFAS Summit in Almaty, would offer an opportunity for the informal involvement of Afghan experts. Replacing some 28 loosely connected and at times contradicting agreements and declarations that constitute the legal basis for regional water cooperation in Central Asia with a single comprehensive treaty needs to consider the need to modernize the obsolete and patchy legal arrangements with Afghanistan too. Involving Afghanistan in official discussions on investments in trans-boundary water infrastructure may have to wait until the country re-establishes relations with potential investors.

Early engagement among water and energy experts of Central Asia and Afghanistan would offer mutual advantages. It would help build trust, reduce conflict potential, boost the chances of attracting investment in regional water infrastructure, help Afghanistan to continue with programmes to introduce modern water saving irrigation technologies and support long-term plans of exporting clean, renewable electricity from Central Asia to Afghanistan and South Asia. Water can divide countries and communities but can also bind them together. Managing water effectively is critical for Afghanistan's development and stability. It requires an integrated approach that spans investments in infrastructure with conflict-sensitive approaches, efficient water management to reduce competition over scarce water resources, improving water governance and preparing for climate and human-driven impacts that will affect water security.

To successfully engage with its neighbours on transboundary water management, Afghanistan should increase its technical and institutional capacities in bilateral and multilateral dialogues

and water diplomacy. This approach should not be limited to advancing technical cooperation in the joint management of a shared water resource. In the context of profound geopolitical and geoeconomics changes where the consensus of regional countries is essential to achieving enduring peace, a comprehensive approach is required, putting water cooperation within the broadest economic, political, and strategic context possible.

Like elsewhere in Central Asia, the negative economic impact of covid-19 is creating a common ground for regional players to cooperate to transform the crisis into an opportunity for economic cooperation and regional integration. Covid-19 may represent an opportunity to encourage connectivity through a regional economic program with the water-energy-food nexus at its core, connecting Central Asia with South Asia and China. Afghanistan, because of its geographical location, would play a key role in such connectivity, encouraging cooperation in peace efforts in Afghanistan. Transnational projects such as the Central Asia - South Asia hydropower transfer project (CASA)-1000 and the Turkmenistan-Uzbekistan-Tajikistan-Afghanistan-Pakistan power interconnection project (TUTAP) should help redirect the region from conflict to collaboration.

In addition to strengthening government institutions, peace should be sustained by securing commitments from regional countries through economic incentives. A regional economic program should address the needs and interests of both Afghanistan and other regional players, driving them towards supporting peace.

Towards a Joint Vision and Strategic Planning to Strengthen Regional Cooperation across the Water-Energy-Food Nexus in Central Asia

Water is a key driver for food, energy, environmental security, and social stability in the Aral Sea Basin. Reliance on water resources in the future will increase with further economic and population growth in basin countries, and cooperation in jointly exploiting benefits and reducing costs will become even more important. Piecemeal responses cannot address existing as well as future needs and challenges. Holistic approaches that are

participatory are needed to identify workable and acceptable solutions through research and on-the-groundwork, and to implement them through engineering, institutions, and other means. The future direction of water resource management in the Aral Sea Basin must thus be built on innovative thinking and best practices in the region and around the globe (Ibatullin and Ziganshina, 2020).

Key areas for the future include¹² (1) developing joint vision and strategic planning, (2) improving legal frameworks and institutions, (3) strengthening data, information and capacity, (4) promoting evidence based decision-making and water diplomacy, (5) harvesting the possibilities offered by infrastructure, technology and innovation, (6) enabling multi-sectoral and participatory governance arrangements at multiple scales, (7) paying more prominent attention to water quality and environmental degradation, and (9) recognising multiple facets and values of water (Ibatullin and Ziganshina, 2020).

The Covid-19 crisis makes it imperative to achieve early breakthroughs in regional cooperation. Strengthened regional cooperation across the water-energy-food nexus would offer much needed economic benefits and would allow Central Asian countries to develop coordinated responses to the challenges of a changing world economy and to promote their strategic interests more effectively, including managing water, the most important strategic resource of the region. Resolute steps to improve the efficiency of water resource management and to increase the contribution of water use to the economy are essential for rapid and sustainable economic recovery in Central Asia after the Covid-19 crisis (Krasznai, 2020).

Increasing agricultural jobs and processing industries is extremely important at a time when large numbers of migrant workers may lose their jobs because of the pandemic. Irrigated agriculture and regional cooperation can play a key role in strengthening food security, and improved water supply and sanitation is a precondition of being better prepared for future pandemics. Central Asian economies are performing far below their water potential and relative levels of water withdrawal are high and, in some cases, unsustainably high (World Bank, 2020). With the right mix of national

and regional policies, as well as infrastructure investments with due coordination at basin level, Central Asia can recover and continue to grow sustainably and inclusively in the face of sanitary, climate change and other challenges.

Geopolitical and geoeconomic changes put increasing pressure on basin countries to end resource competition¹³ to open the way to closer cooperation and more effective promotion of their shared interests within the broader Eurasian integration processes. Existing regional frameworks must either be reformed or replaced by new forms of cooperation to successfully translate political will into highly effective, integrated management of regional water resources. Transboundary water cooperation¹⁴ must be placed within the broadest economic, political, and strategic context. The participation of downstream countries in building large reservoirs in upstream countries would assure joint control and operation of strategically important regional infrastructure. Long-term regional strategies would more clearly and convincingly reveal shared interests rather than a focus on short-term issues, thus ensuring sustained support by governments and societies.

If economic and social tensions are left unattended, they may reignite disputes over water. Improved management of the resource at the national and regional levels can contribute to the rapid rebound of Central Asian economies by creating job, generating greater export earnings, and by strengthening food and energy security, as well as improving public health through increased access to clean drinking water. Financial resources for post-crisis recovery can make a real, long-term difference if invested in the water sector, provided there is rapid progress in resolving the problems that have plagued the sector for far too long (Krasznai, 2020).

Increased pressure to make strategic decisions in the wake of the crisis to accelerate economic recovery may help achieve breakthroughs on issues that have not been resolved for decades. Indeed, the devastating impacts that the pandemic is having on all Central Asian economies, which are still highly dependent on oil and gas revenues as well as remittances, could provide a powerful impetus

¹²

Key Messages on the Future of Water Resources in Central Asia, Ibatullin and Ziganshina, 2020

¹³

An inspiration in this connection is the financing mechanism of the European Coal and Steel Community which catalysed private sector development and helped neutralize competition between countries over natural resources.

¹⁴

Key Messages on Transboundary Water Management in Central Asia, Krasznai, 2020

for a comprehensive, regional water-energy-food economic and financing mechanism. The fascinating case of “hydro-diplomacy in rapid action” in the aftermath of the Sardoba dam disaster in May 2020 (section 2.2. above) could contribute to reshaping the transboundary water dynamics in Central Asia, made more urgent by the Covid-19 crisis.

Since most countries in the region and beyond would have a direct stake in continuing regional trade of food and hydro-energy, a regional economic and financing mechanism, or an international consortium, could provide reliable incentives and guarantees for the sustainable, coordinated operation of water-related institutions and infrastructure which is of regional importance. This would also be key to attracting international technical, commercial, and financial partners.

A regional mechanism or consortium can also help harmonize investment, procurement, social, and environmental standards across a coherent, coordinated portfolio of projects basin-wide, and more efficiently address legal, technical, and financial

issues associated with the building and operation of large water infrastructure. A regional mechanism could also help the region move from an entitlement approach to a service approach in which benefits are shared, notably through innovative Investments for Watershed Services (IWS) mechanisms at various levels. It is critically important that the regional mechanism or consortium not be majority-owned by any country; it should also be managed by one or more regional development banks such as EADB, AIIB, or ADB.

The Covid-19 crisis has deepened existing economic problems in Central Asia and has accelerated geopolitical and geoeconomic changes in the Eurasian region. The window of opportunity has perhaps never been greater to create a forward-looking but realistic regional economic and financial mechanism, backed by a joint regional investment plan that also include Afghanistan. Such a mechanism would promote the shared strategic interests of Central Asian countries more effectively and would ensure the long-term, sustainable management of water, energy, and food in Central Asia and beyond.



Chapter 5

**Taking stock of 2021 and
Looking Forward:**

**Opportunities for the
Global Observatory for
Water and Peace**

2021 was a year...

2021 was a year that highlighted the increasing number of tensions occurring at multiple levels and scales. The extraordinary and ongoing Covid pandemic has been in the spotlight, diverting attention from other existing crises and challenges. The Geneva Water Hub framed its positioning regarding such a crisis in a white paper published in early 2020 (Geneva Water Hub 2020). After almost two years of the global pandemic, we have learned the following lessons related to the Water and Peace agenda:

- The pandemic illustrated both the importance of as well as the difficulties for scientists to get heard in crisis situations that have a global impact. In this perspective, it becomes even more important to reflect and contribute to the science-policy interface and to value evidence-based policy making;
- Due to the prevalence of online communication, the global disruption has been less severe than it might otherwise have been, and many activities could be developed further. However, the shift towards virtual collaboration and the increasing number of online meetings has challenged the way we normally collaborate and adds more complexity when building trust within the framework of sensitive collaboration processes;
- The pandemic has demonstrated the importance of centralized crisis management, with the critical role played by the World Health Organization (WHO). This is a clear example on collaboration for the 32 UN Agencies responsible for water to learn from, given the continuous water crises;
- The pandemic has also highlighted the difficulties that multilateral processes face in times of crisis. The sharing of vaccines illustrated how complex coordination processes are, how a global approach is challenged by political economies, and how power relations emphasize sovereignty rather cooperation; and
- The current crisis has also highlighted the crucial role of water for health and has reinvigorated the discussion that began more than a decade ago around the Water, Sanitation and Hygiene (WASH) agenda.

The year 2021 also highlighted numerous security challenges and threats to conflicts in many regions. For instance, Western Africa illustrated the effects of high political instability (see Chapter 2 of this report). For instance, in the Sahel region, multiple extortions by the rebel and terrorist groups are taking place almost on a daily basis and across borders. Niger, Burkina Faso, Mali, and Chad are dealing with ongoing threats and instability. In addition to Al-Qaida, ISIS, and Boko Haram, new terrorist groups are being formed. These groups are not necessarily linked to a specific ideology but their impact on the ground remains of concern. The military response cannot be the only way to deal with ongoing conflicts because a response is not only about securing water infrastructure but also about developing and ensuring safe access to freshwater. Initiatives that adopt such broad perspectives, which go beyond military action, ensure success, as we see with the ongoing initiatives led by Niger authorities in the Liptako-Gourma region (Maïga 2021).

2021 was a year with multiple extremes events linked to population pressures and climate change

The last decade saw a significant increase in natural disasters and the consequent impacts of these events. This tendency is attributed to climate change but also to demographic growth and urbanization. Such natural disasters have a cost. The last few years, 2021 especially, have demonstrated climate-related extremes through intense heat, significant wildfires but also heavy flooding. One example is the Rhine basin floods which unfortunately caused more than 120 deaths and significant costs. Water resources certainly crystalize ongoing climate-induced changes.

The triangle composed by tensions related to state fragility, climate and water is a contemporary challenge. On the one hand, conflicts tend to increase vulnerability to natural disasters. Weak or absent infrastructure further weakens the capacity of authorities to react, renders populations less resilient and further exposes displaced populations to the risks of disasters. On the other hand, disasters tend to increase during periods of food insecurity, thereby offering yet another reason for people to migrate. This brain-drain, in turn, puts more pressure on the existing poor governance systems and tends to further trigger tensions with insufficient and inequitable adaptive strategies.

In such contexts, and in the process of increasing decarbonized and renewable sources of energy, dams are increasingly being used as a power source. This infrastructure could also mitigate the impacts of melting glaciers and contribute to flood control, if designed for it. However, the potential negative social and environmental impacts of dammed rivers, such as displacement and altered ecosystems, is well-known. To better understand dam-related challenges, both in terms of legal frameworks and governance, the Geneva Water Hub and IUCN Environmental Law Centre launched the “Dams, regulation of water flows in a fragmented world” initiative. The initiative’s first output is the launch of a publication consisting of a legal compendium on dam building and operation, identifying all legal frameworks applicable to dams. This publication will be followed by other activities designed to better understand today’s challenges and opportunities.

2021, a year of global and multilateral development for the water and peace agenda

The recommendations made by the Global High-Level Panel on Water and Peace contributed to an increased recognition of the nexus between water and peace, notably at the regional and multilateral levels, through a network of partners in related fields. In line with this contribution and with the support of the Minister on Water and Sanitation of Senegal (member and vice-chair of the Panel), Senegal chose the theme of “Water Security for Peace and Development” for the 9th World Water Forum which it will host in March 2022. With the same vision, the United Nations will hold a conference on Water in March 2023 to review progress in the implementation of the Water Action Decade. As a result, 2021 is firmly anchored in this process and is a key steppingstone towards 2023.

Another example of the ongoing momentum is also exhibited through several initiatives that focus on the specific agenda. The “Water, Peace and Security Initiative” (<https://waterpeacesecurity.org>), founded in 2018, is a partnership between the Dutch Minister for Foreign Affairs and a consortium of six partners. It aims to develop innovative tools to identify risks and security challenges linked to water resources. Another example is the “Blue Peace Index” (<https://bluepeaceindex.eiu.com/#/>) launched by the Economist Intelligence Unit with the support of the Swiss Federal Department of Foreign Affairs. This initiative aims to evaluate transboundary water management by focusing on five pillars: political and legal frameworks, institutional arrangements, water management instruments, infrastructures, and financing and cooperation. Among other activities, the Geneva Water Hub also contributes to this momentum with the “Geneva List of Principles for the Protection of Water Infrastructures” (Geneva Water Hub, 2019). The “Geneva Principles”, a reference document that grew out of a process launched in 2016, groups together all international law principles and frameworks that contribute to the protection of water-related infrastructures. This list was launched in partnership with UNICEF through its “Water Under Fire” series which illustrates the negative consequences on local populations when attacks on water infrastructure occur in fragile environments.

Furthermore, the Global Observatory for Water and Peace (GOWP) represents a major vehicle toward the implementation of the recommendations of the Global High-Level Panel on Water and Peace. As such, it contributes directly to the ongoing momentum towards 2023 by providing analytic hydro political mapping. The subsequent report includes an analysis of the developments in catalysing the use of water in peacebuilding within the European and global context.

The Global Observatory for Water & Peace, a vehicle to promote multilateralism for the water, peace, and security agenda

The GOWP advocates for multilateral processes: Its model of several nodes or partnerships operating at the global to local levels calls for collaboration among multiple actors and across multiple scales. As the current Secretariat of the GOWP and precisely because of the challenges listed at the start of this chapter, the GWH asserts that such positioning holds true and should be continuously promoted at the international level. The statement is not contested; It is becoming increasingly accepted that maximising the benefits and the sustainability of transboundary waters depends on the dialogue between parties and on their capacity to build common frameworks of coordination.

Multilateralism in transboundary waters is necessary for two types of temporalities. First, to govern and manage day-to-day water relations between the riparian states, in which a great variety of actors come together to negotiate a beneficial proposition for their state. The ongoing, multilateral governance in the Nile, Senegal and Mekong serves as a good example. Second, in the long run, multilateralism enables incremental and possibly even transformative change for the future governance of a transboundary basin. This dimension is particularly key when considering increasing water conflicts due to stressors such as climate change and increasing demand for water, food, and energy (Cox, 1992; Zawahri and Mitchell, 2011).

Nonetheless, the evidence shows that bilateral water treaties are much more common than multilateral transboundary water arrangements.

This tendency can be explained by the high transaction costs of involving multiple actors, and by the occurrence of power asymmetries between actors involved in multilateralism and individual state interests (Barua, Vij and Rahman, 2018; Zeitoun and Warner, 2006; Martin et al., 2011; Oye, 1985). As a matter of fact, states tend to prefer bilateral arrangements, undermining the advice of environmentalists, hydrologists, and social scientists to treat a river basin as a single ecological unit with a multilateral arrangement between the riparians. For instance, in the Ganges basin, India bilaterally negotiates with Bangladesh and Nepal; and could have shared the damages during the dry season if there was a multilateral arrangement between the three riparians (Hossain and Katyar, 2006).

Bilateral arrangements remain a positive starting point and many multilateral cooperation frameworks started with bilateral cooperation first (Mohamed, 2003). For instance, Botswana and South Africa reached a series of bilateral agreements for the Upper Limpopo Basin before signing a multilateral accord and establishing the Limpopo River Commission. Such bilateral dynamics should not be considered an endgame in a multilateral transboundary water.

Different tools are available for managing existing difficulties such as high transaction costs and complex power relations that are linked with multilateralism in transboundary waters. First, third party players (International Governmental Organizations (IGOs), International Non-Governmental Organizations (INGOs)) can assist in supporting dialogue and the establishment of institutional frameworks (Keohane, 1984). States that are part of IGOs can benefit from large knowledge networks, safe spaces to interact, and secure access to accurate information. To overcome policy deadlocks and non-decision-making scenarios in transboundary waters, IGOs can contribute and assist in negotiating agreeable agendas and conflict resolving mechanisms also (Abbott and Snidal, 1998). For instance, the World Bank successfully negotiated the Indus Water Treaty between India and Pakistan, which is still operational after 3 militarized wars (Iyer, 2003). Similarly, the United Nations Economic Commission for Europe (UNECE) and its Water Convention has been active in promoting river basin planning in different regions and in supporting dialogue platforms for states, NGOs, and civil society to meet and exchange lessons learned in transboundary water management (UNECE, 2019). Finally, INGOs along with IGOs can lobby governments (domestically) on transboundary environmental issues, develop policy options and reduce state transaction costs for policy research and negotiations (Zawahri and Mitchell, 2011).

The role of International Geneva in supporting multilateralism

Diverse political tensions highlighted recently the existing challenges linked to the establishment of multilateral processes. Transboundary waters are no exception. In this context, the Geneva Water Hub considers the role of International Geneva key to further promote and support the development of multilateral dynamics. We believe that International Geneva can provide a safe space for multilateral transboundary water negotiation processes and offers an extensive network of actors that can contribute to supporting the parties concerned on various sensitive topics and thematic areas linked to water sharing, infrastructure development and data sharing. Such use of a safe space aligns with the essence of Geneva and all its institutions which promote respect for international norms, multilateralism, and policy innovation for conflict-prone regions. With the global restrictions imposed by the Covid-19 pandemic, international Geneva is also uniquely positioned to continue transboundary negotiations via virtual platforms as trust has already been built through face-to-face meetings in Geneva. In addition, Geneva is one of the four major United Nations headquarters, and the World Meteorological Organization and UN-Water, the coordinating body for UN's work on water and sanitation, are both located there. The UNECE is another key player who brings actors together and promotes the Convention on the Protection and Use of Transboundary Watercourses and International Lakes (also known as the 1992 Water Convention), a unique international legal instrument and intergovernmental platform. As a "city of peace," Geneva groups together a unique set of actors capable of influencing the water, peace, and security agenda. Numerous diplomatic missions that are active at the UN level can contribute to put this agenda forward at the international level and in their respective capital cities.

The Geneva Water Hub can capitalize on International Geneva to push the water, peace, and security agendas. A key example is the 2021 Geneva signing of a declaration by the Ministers of Gambia, Guinea Bissau, Mauritania, and Senegal for the establishment of a legal and institutional framework for cooperation on the Senegal-Mauritanian Aquifer Basin (known by its French acronym BASM). Although this achievement was mostly led by the countries themselves, it was supported by the Geneva Water Hub, the UNECE Water Convention Secretariat and the UNESCO International Groundwater Resources

Assessment Centre. The next steps will be to see the framework implemented and working for the countries.

The contribution of River Basin Organisations in the promotion of multilateral processes

Transboundary water management is highly complex, and high-stakes, multiple actors, numerous institutional and legal frameworks imply great fragmentation (Zawahri and Mitchell, 2011). As such, there is a need to define mechanisms that can cope with this intricacy and to bridge between the multiple dimensions at play. Since the 1950s, different models have been promoted to deal with transboundary waters establishing frameworks that go beyond political boundaries and, by doing so, reinforce regional stability (Mukhtarov and Gerlak, 2011).

As noted in Chapter 2, one of the pillars of global water governance is River Basin Organizations (RBOs), an institutional arrangement organized at the river basin level including various levels of governance. The 1997 UN Convention on the Law of the Non-Navigational Uses of International Watercourses, the 1992 UNECE Water Convention and the 2004 Berlin Rules, all encourage governments to establish joint mechanisms or commissions to facilitate transboundary cooperation. RBOs are usually promoted by transnational policy actors (actors encompassing a variety of boundary-crossing entities that address issues that cannot be resolved alone) to establish a forum to discuss critical water conflict issues and guide mechanisms for day-to-day operations. In the recent past, the Global Environment Facility (GEF), the World Water Council (WWC), the World Wildlife Fund (WWF), the Global Water Partnership (GWP) and Green Cross International (GCI) have all been involved in promoting RBOs in several river basins.

RBOs have evolved with time and are influenced by different underlying paradigms such as comprehensive rational planning, the environmental conservation movements of the 1970-80s, Integrated Water Resources Management in the 1990s, and various decentralized multi-level governance models and adaptive governance in the recent past. However, the future of RBOs ought to be more power-sensitive and resilient to accommodate regime changes and new political mandates. RBO institutional design must be flexible to include new

actors and knowledge, along with the ability to adapt and accommodate the changing environmental concerns such as climate change. Lastly, RBOs will also have to accommodate changing geopolitical considerations to continue their efforts in achieving SDG 6.5 and leading efforts to water peace and justice beyond 2030.

There are several examples of RBOs that have been successful in contributing towards regional stability and robust transboundary governance, particularly in the participation of riparians and related stakeholders, conflict resolution mechanisms, and data exchange.

An example from West Africa is the fifty year old “Organisation pour la mise en valeur du fleuve Sénégal” (OMVS), an organization that has contributed to regional stability since the 1970s. Nowadays, the OMVS groups together all the countries of the river basin (Guinea, Mauritania, Mali, and Senegal) and demonstrates innovative institutional mechanisms supporting multilateral processes such as co-ownership of hydraulic infrastructures, the definition of cost-benefits sharing mechanisms ensuring equity in the governance framework or a strict separation between ownership and management with independent operators in charge of the management of existing infrastructures. Another example is the International Commission for the Protection of the Danube River (ICPDR), an organization that has been able to bring nineteen countries together, which have different cultural, political, and environmental legacies to find synergies on issues such as hydropower, navigation, flood protection, and nature conservation (UNECE, 2019).

Since each RBO has its own history and specificities, dialogue between these different frameworks is key to ensure the exchange of lessons learned and good practices. In 2018, for instance, UNECE and ICPDR organized a meeting for domestic water pollution prevention via industrial accidents that may impact transboundary waters.

River Basin Organizations and the challenges ahead

Although RBOs have shown progress and have enabled cooperation in transboundary basins, they are challenged by emerging new environmental concerns, political mandates and changing political regimes, complex participatory processes, and new geopolitical constraints. Climate change is negatively influencing water security across the globe and

has emerged as a major environmental issue (Biermann and Gupta, 2011; Bernauer and Betzold, 2012). Various climate change actors are working in the transboundary basins and making attempts to influence the planning and implementation of water sharing and infrastructure development. RBOs must be institutionally flexible to include not only these new environmental challenges but also the evolving knowledge and new actors working on climate change (Schmeier, Gerlak and Blumstein, 2016). The world is currently observing a shift in the political cycle with authoritative and populist leaders emerging in democracies around the world. Such a shift limits opportunities for cooperation, hinders institutional flexibility, and creates inadequate participatory processes within RBOs, which in turn lead to unilateral decision-making and mismanagement of transboundary waters. New institutional arrangements to curb climate change in transboundary waters and related RBOs are hindered with such authoritative and populist leadership (Vij et al., 2020).

Facing these challenging developments, the GWH bears in mind that the RBO model is not the end in itself (Bréthaut & Pflieger 2020). The objective is to encourage multilateralism through incremental or transformative change towards more equitable and sustainable transboundary water arrangements. An RBO without a proper mandate, without the capacities or the states' support to implement a strategic plan will not trigger any multilateral dynamics. A diversity of institutional architectures exists to support transboundary water management in line with regional specificities, through existing resources and priorities defined by the parties involved. A multiplicity of arrangements can contribute to support transboundary cooperation through more or less formalized, robust, and flexible settings. It is also useful to place currently successful RBOs into perspective. Many organizations start their pursuits with simple exchange platforms and/or scientific observation. It takes time for a proper mandate to be defined by riparian states. In this regard, it is key to structure existing institutions according to a diagnosis of the basin and its needs. The structure, nature and capacity will depend on each situation and the political will of riparian states. RBOs may sound like a good solution in certain situations, but they can become too formalized, inflexible, resource consuming, and time consuming in terms of implementation in other situations.

What future for RBOS? – preliminary suggestions

Without considering RBOs as the unique model of governance for transboundary waters and

recognizing the multiplicity of available institutional arrangements, the value added of regional organisations remains valid for the management of transboundary basins. Such organisations help bridge different actors, institutional, and legal frameworks. Considering current development and based on the experience of the Geneva Water Hub, three priorities should be considered when thinking about future RBOs:

- **Digitalisation**

The Global High-Level Panel on Water and Peace called for data-driven decision making in transboundary waters to promote water cooperation and peace. The idea behind this call was not only to improve the diagnosis of conflicts between riparian states but also to build trust between the riparians. Digitalization initiatives in transboundary waters is a step forward in this direction. Tools such as joint data portals, connecting national and regional databases for sectors dependent on the water can be a way forward. Such data portals will allow water budgeting based on both current and future needs of each riparian state, instead of hegemonic and geographic positioning in the basin. For instance, OMVG with the support of the Geneva Water Hub, the International Office for Water and INBO is planning to develop integrated management and cross-valuation of data, combining efforts from transboundary and national systems. An OMVG regional portal will allow data from local, national, and international institutions to support decision making on water dependent sectors such as energy, food, and climate change. Similarly, in Garang Basin, Indonesia, water quality monitoring is done by a wireless sensors network owned by various government and private agencies. A joint network has brought together state and non-state actors to monitor water quality along the river and has made water utility services more responsive and accountable (Hadipuro, Suwarno, and Antonius, 2019).

- **Connecting surface and groundwater**

There are roughly 600 transboundary groundwater watercourses in the world, including 366 transboundary aquifers and 226 groundwater bodies (GWP, 2021). Since these water bodies are hidden, they are often connected to the surface water bodies, mostly transboundary in nature. The related laws and governance mechanisms for cooperation and management of transboundary groundwater bodies are lagging the transboundary surface water bodies. The transboundary groundwater legal framework is a combination of international, regional, and bilateral agreements, and the UNECE Model Provisions on

Transboundary Groundwater, the 2008 draft articles on transboundary aquifers, the 1992 water convention, and the 1997 watercourses convention. The 2008 Draft Aquifer Articles and Model Provisions acts as a guiding document for bilateral and multilateral agreements and institutional arrangements for joint management of transboundary aquifers.

However, several gaps exist concerning transboundary groundwater governance. First, the transboundary groundwater bodies are entangled with the issues of territorial sovereignty and water sharing. There are no clear boundaries for these hidden watercourses, and it is challenging to measure and share them. Moreover, it is a prerequisite among riparians to cooperate for managing transboundary groundwater, since it is not possible to demarcate and govern groundwater without significant cooperation on the technical and governance issues. Without cooperation, joint assessment and technical knowledge cannot be developed for these hidden watercourses. Second, there is a messiness due to the interaction of various international, regional, national, and local legal structures that aims to govern transboundary water aquifers. This complexity of various legal structures makes it difficult for actors to follow a single legal framework that allows for context-specific groundwater issues, including pollution and over-extraction.

Although these challenges exist, there are a few examples of relative success in transboundary groundwater governance that are emerging at the legal scale as well as in several regions across the world. For instance, the UNECE has set up a core group on groundwater to develop the model provisions on groundwater, which can act as a directive for the governance of various transboundary groundwater bodies (UNECE, 2012). Similarly, the countries of the Guaraní aquifer, Argentina, Brazil, Paraguay, and Uruguay, came together to sign an agreement, following the Resolution 1803 (XVII) of the United Nations of permanent sovereignty over natural resources and Resolution 63/124 on the Law of Transboundary Aquifers (see Chapter 3). For now, there are no conflicts regarding water quality and extraction, but this agreement sets the course for future governance of the aquifer. Similarly, South African Development Community (SADC) has developed various enabling instruments for transboundary groundwater governance, including the SADC regional water policy, SADC revised protocol for shared Watercourses, and the SADC Strategic Action Plan (2021-25). The SADC regional water policy emphasises joint monitoring and assessment of groundwater, connecting it with the transboundary surface water to follow a river basin approach (GWP, 2021; SADC Regional Water Policy, 2006).

To further improve transboundary groundwater governance, emphasis should be laid on developing cooperation mechanisms or institutional arrangements such as RBOs to explicitly focus on groundwater and strengthening the legal frameworks for the protection of groundwater. Within such institutions permanent structures such as secretariats should be created to conduct data exchange and joint monitoring in sustaining the future governance of transboundary groundwater. This should be supported by sound coordination between national entities responsible for groundwater mapping and governance (Lipponen and Chilton, 2018).

- **Supporting participatory processes**

As multi-governmental organizations, RBOs contribute to facilitating states' interactions and coordinating the definition of common visions and actions at the basin level. In addition, as meso-institutions, RBOs are particularly well positioned to bridge between the different institutional levels and to facilitate bottom-up processes. Participatory processes are key elements for the definition of meaningful transboundary water governance systems and attention should be paid to integrating concerns raised at the local level in strategic planning. Such participatory processes can be framed and supported in multiple ways. From this perspective, the Geneva Water Hub considers art a relevant and powerful vehicle for facilitating bottom-up processes and for bringing forward the needs and concerns of riparian inhabitants. With the "Voix du fleuve" project, the Geneva Water Hub aims to use the medium of art and participatory processes along the Senegal River as a vehicle for facilitating dialogue and exchange across institutional levels.

Conclusion

In conclusion, the current times are challenging for water cooperation and multilateralism. The global pandemic and recurring environmental crises have reinforced a tendency to withdraw and focus on national sovereignty. With this trend in mind, it becomes even more important to promote the water and peace agenda, to bring visibility to success stories, and embrace opportunities for cooperation and multilateralism. As such, we believe in the potential of the GOWP.

With its global network of existing and respected institutions, the GOWP can contribute

to solving regional challenges and allowing for dialogue and exchanges of good practices between different regions. The GOWP can thus become an inclusive tool that contributes to facilitating ongoing processes at the regional level, increases existing capacities related to the water and peace agendas and supports complex policy processes, thanks to the compilation of practices and tools provided by

the regional and thematic partners. In this chapter, we took stock of the past few months, considered the impacts this current period has had on the water and peace agenda, and reflected on the future and thought about where to put particular emphasis. The challenges and risks are significant, but the good news is that many tools exist to support and advocate for the water and peace agenda.

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Chapter 6

Dams, Floods and Cuts: Diverging waters between governments and civil societies – Examples from the Levant

In a region infamous for its water scarcity, authorities in several Levant countries have often been found wanting when it comes to providing necessary services such as water for drinking and domestic chores, water for industrial operations, water for agriculture, proper sanitation services, and storm water drainage. Equally important, hydraulic infrastructure has experienced frequent failure in many countries of the Levant, when coupled with poor governance, has driven people to take to the streets in protest of governments and their ineffective handling of water services provision. In Lebanon, throughout modern history, civil society has played a significant role in providing aid and development services, influencing discourse, and attempting to enact political change. In Jordan, civil society and NGOs need to manoeuvre between multiple centers of power and key political actors, most notably those of the monarchy. They avoid confronting authorities but instead choose to work and cooperate with them to reach their goals. In Iraq, civil society has gone through multiple challenging and turbulent phases in its recent political history, from the monarchical rule of the 1920s, to the subsequent decade of military coups in the 1960s, followed by the rise and fall of Saddam Hussein, to the present situation.

Background

Social protests are not a new phenomenon, especially those dealing with water service delivery in the region. Public outcries over water resources have taken place for decades. In Lebanon, modern water service delivery was implemented in the second half of the 19th century. In 1870, the Ottoman sultan granted a concession to a French engineer Thèvenin to “bring water from Nahr el Kalb to Beirut and provide running water to the city” (Office des Eaux de Beyrouth 1996). This resulted in a change of water use from agricultural to domestic and posed administrative and legal challenges since the largest volumes of water were reallocated for the benefit of the city (Riachi, 2013). An agreement was reached after four years of negotiations between the two parties, and there was a change in the ownership of the concession (Mallat H., 1995). After the dignitaries involved brought the case to court, the law recognized and guaranteed their rights (Ghiotti and Riachi 2013).

A similar conflict arose between the imperial will to grant concessions and water actors with respect to Jerusalem’s water supply in early 20th century Palestine. In February 1914, an “agreement concerning the concession for the building and operation of the supply of drinking water to the city of Jerusalem” was bid to Euripide Mavrommatis, an Ottoman Citizen (Lemire, 2000). The concession soon faced strong opposition and social protests. On 25 May 1925, after a particularly dry winter, the Mandate government decided to divert almost all the water resources of Artas village to Jerusalem (Lemire, 2011). On 9 June, the Executive Committee of the Palestinian Arab Congress orchestrated an peasants’ protest in Artas and vigorously protested to the High Commissioner (Lemire, 2011). The farmers then brought an action against the Governor of Jerusalem in the Supreme Court of Justice, first in 1925, and again in 1926 to the Privy Council of London, Britain’s highest judicial body (Lemire, 2011). The pumping from Artas to Jerusalem ultimately stopped in the spring of 1926.

Cases in the Levant

1.1 Lebanon

Water availability in Lebanon is especially limited in the seven dry months (April-October) due to the country’s low water storage capacity, the

shortcomings of the water delivery systems, and the difficulty of capturing water close to the sea (Frenken 2009).

To improve the country’s water storage capacity, old plans, which included the building of dams, developed with support of the United States Bureau of Reclamation (USBR) in the 1950s, were brought back off the shelf and promoted for implementation. Corruption, actual and perceived, alerted civil society to the potential for wasteful spending of public funds that could be involved in mega projects such as dams. The control or access to projects and their implementation became a key focus of some political parties, which saw in these projects not only opportunities for gaining votes in the regions in which these projects were to be executed, but also for kickbacks either directly or in the form of employment for their supporters. The Bisri Dam project first proposed in 1953 by the USBR, came into effect in 2014 as part of the Lebanon Water Supply Augmentation Project (World Bank 2020A). Civil society, which had already been sensitized to the problems of dams through previous demonstrations against the Jannah Dam and Qaysamani Dam, organized protests against the construction of the dam, citing corruption and environmental concerns as the main issues (Arab News 2020). The movement grew in both size and influence, leading the World Bank in September 2020 to cancel its support and funding for the project (World Bank, 2020B).

1.2 Jordan

Jordan, currently the world’s second water-poorest country where water per capita is 88% below the international water poverty line (Jordan Times, 2020), has seen protests and conflicts over water for years. Jordan’s first heavy rainfall of the 2018/2019 season resulted in a flash flood in the Zarqa-Maean Valley, sweeping away a bus with 39 students and seven adults on board. The death toll rose to include 21 people, with 35 wounded. Local media statements sparked a series of accusations and criticism against the ministers of education and of tourism and antiquities, leading to their resignation. Two weeks after that incident, heavy rains in Petra caused a torrent of water to come gushing through the city’s narrow and steep access canyon, flooding the entire area within minutes. Twelve people lost their lives, while more than 3500 tourists were evacuated from the ancient city to safe areas (The Watcher, 2018).

Reduced rainfall and associated surface water flows, coupled with population growth and the arrival of over a million Syrian refugees in 2011, have drastically reduced the country’s water availability. While water and electricity bills continued to rise, the

state kept failing to deliver water, forcing households to rely on water tankers again. These issues coupled with allegations of widespread corruption in the water sector have added to public discontent and water-related unrest, which resulted in some northern communities ripping out water meters to protest limited water quantity and quality.

1.3 Iraq

Water-related disputes in many parts of Iraq have resulted in protests, tribal fighting, and provincial disputes. According to Dockx (2019), the large-scale water contamination that led to the hospitalization of tens of thousands of people in Basra province triggered protests in which Basrawis took to the streets to show their opposition to the government. Human Rights Watch (2019) stated that water pollution led to the hospitalization of at least 118,000 people, with local and federal authorities perceived as having done little to address the conditions that caused the situation. Authorities met the protests with violence, increasing anger among people who have been suffering from the government's mismanagement and negligence. Provincial councils often accused their upstream neighbours of disrupting the flow of waterways. In July 2018, the governor of Muthanna, joined by local security forces, unlawfully entered Qadisiyah province to forcefully remove structures that reduced the flow of water to his province" (Dockx, 2019).

The water pollution crisis in Basra not only negatively impacted the relationship between Basrawis and their provincial officials, but also the relationship with federal officials, leading to tensions between the different government levels. Provincial disputes and inter-tribal violence, which are no longer confined to rural areas, have increasingly led micro-level tensions to escalate. The predominantly Kurdish and Sunni areas located in the northern and central parts of the country have experienced fewer water scarcity challenges when compared to the south. The recent conflict between government forces and the IS further impaired the irrigation infrastructure in the majority-Sunni Arab provinces of the north (Dockx, 2019). Furthermore, many obstacles have hindered the construction of water infrastructure, forcing the local population to rely on unsustainable solutions, such as well digging (HRW, 2019). Residents of some northern provinces have been expressing their frustration with policymakers who they perceive as being incompetent and unable to improve the deteriorating water scarcity situation. Many Sunni Arab residents of northern provinces resorted to small-scale civil disobedience and even expressed a desire to join the protest against the government during the unrest in the south.

2.4. Key nongovernmental stakeholders in the water sector: Who constitutes civil society, and what are their roles and activities?

1.4.1. Lebanon

Civil Society Background

Throughout the history of Lebanon, civil society has played a significant role in providing aid and development services, influencing discourse, and attempting to enact political change. The scope and focus of CSOs has changed drastically over time, particularly after the withdrawal of Syrian forces from Lebanon in 2005, which resulted in a more liberated era for the sector. Later, the July War in 2006 and the conflict in Syria since 2011 led to the proliferation of new organizations and campaigns, particularly within the humanitarian domain. The growth of civil society took another turn during the 2015 summer protests over the dire solid waste management crisis. It effectively set the stage for the creation and mobilization of more confrontational and political forms of civil society groups. Inevitably, people's anger over decades of corruption and the political failures of the ruling class culminated in the October 17 uprising of 2019, which in turn radicalized existing civil society groups both in their goals and methods and led to the creation of many new groups.

It is also important to situate civil society within the political environment in which it operates seeing as, over the years, it has considerably influenced its growth. It can be said that Lebanon's sectarian consociational power-sharing regime, rife with clientelism, nepotism and patronage, has offered leeway for negotiation and bargaining with civil society actors. Yet even though Lebanon is said to have the most active and diverse civil society in the region, the effectiveness and impact of its actions and mobilization efforts is not clear. This can be explained by the lack of government support and its crackdown on vocal prominent groups and activists, which has, in part forced civil society to become highly dependent on donor funding, and therefore, on donor agendas and restrictions.

Who are the activists against dams and what have they done?

Dams, once considered the go-to solution for water shortages, are now a subject of major controversy for environmental groups in the country. The first and most prominent group to oppose the construction of dams in Lebanon was the Lebanon Eco Movement, a large network of environmental organizations and associations with a wide range of expertise and interests. For instance, the Janna Dam on the Ibrahim River, is one of the many dam projects that received backlash from civil society, residents,

and farmers due to the destructive impact it has over the neighbouring environment and ecosystem (Battah, 2016). The Lebanon Eco Movement was the first to raise the alarm on the destructive dangers of the Bisri Dam in 2017 and built a solid movement out of this cause. It grew considerably over a short period of time and took its current shape in 2018 as the “Save the Bisri Valley campaign” (Ayoub and Maroun, 2020). It is headed by Roland Nassour and made up of concerned activists and environmental experts and communicates mainly through their Facebook page and regularly issues calls-to-action through this platform. So far, it has succeeded in putting pressure on local figures to reconsider or oppose the dam, halting construction efforts and gathering national concern for the cultural and natural heritage of the valley.

To achieve all this, Bisri activists employed different tools in their arsenal such as organizing protests and sit-ins in front of the Council of Development and Reconstruction offices and those of the World Bank, as well as in the valley itself. Additionally, they created a new scientific report with the help of experts that criticizes the project, which was shared widely on various platforms. By doing so, they contributed to building an effective counter-narrative that discredits the so-called benefits of the dam project that the government and the World Bank publicize.

Successes and Failures of Bisri Activists

The October 17 uprising represented a radicalizing cornerstone for the Bisri Valley Campaign when the campaign became indivisible from the demands of the revolution. As such, it began to transcend the framework of the traditional non-political environmental NGO and started escalating its efforts. Thus, the campaign became politically driven and began to shed light on the links between the clientelist sectarian political system and the Bisri dam project (Moussa 2020).

In March 2020, the Lebanese cabinet, despite the best efforts of activists and environmentalists, approved the resumption of the Bisri dam project. Following this, and after continued pressure from activists and residents, several municipalities in the Chouf area surrounding the Bisri valley withdrew their support from the dam project. Headed by the Druze political leader Walid Jumblatt, some speculate that his decision to oppose the dam was due to the PSP’s deteriorating relations with the Free Patriotic Movement, the main sponsor of the Bisri dam (Chehayeb, 2020). Yet, regardless of these political reasons, the municipalities’ opposition to the dam was seen as a positive turn of events that could help add more pressure on the World Bank and the government to halt the project completely.

Eventually, the efforts of the campaign paid off. The World Bank informed Lebanon’s Energy Ministry that if construction of the dam did not resume by July 22, then the remaining financing would be stopped. This marked the beginning of a standoff between activists and the government, with the activists camping out in the valley to physically prevent construction efforts from taking place, which they succeeded in doing (Zaatari, 2020). This success, however, was short-lived, as the World Bank extended the deadline to September 4, 2020, giving more time for the government to begin the project (The Daily Star, 2020). Nevertheless, activists doubled down on their efforts and camped out in the Bisri valley until the deadline, and this time, their efforts did not turn out to be in vain. On Friday September 4, the World Bank announced the cancellation of the remaining loan due to the lack of completion of the tasks necessary to begin the project (MEE, 2020).

1.4.2. Jordan

Background on Jordanian Civil Society and NGOs

Civil society and NGOs in Jordan need to manoeuvre between multiple centers of power and key political actors, most notably the monarchy. The Jordanian parliamentary monarchy makes it so that the center of executive and political power is held within the hands of the King and the Prime Minister he appoints. However, the Jordanian public lacks effective means of communication with the government and as such, their grievances and demands are not easily voiced. The government and the monarchy have tried to remedy that by forming multiple GONGOs (governmental NGO) and RONGOs (Royal NGO) to breach the gap between them and the Jordanian public, while simultaneously dominating the civil society scene and preventing them from directly criticizing the ruling powers. This has served to weaken Jordanian civil society since these established groups are the primary receivers of funding and enjoy preferential treatment from decision-makers, leaving no space for smaller independent groups to have an impact (Al Nasser, 2016). Indeed, the majority of existing CSOs in Jordan are charity-based and service-delivery focused and are less concerned with human rights and democracy efforts.

Who are the CSOs and NGOs concerned with Water?

Environmental efforts are mostly taken up by a few NGOs and RONGOs in Jordan. By 2017, there were around 124 registered environmental NGOs (Namrouqa 2018b). Their work is varied, ranging from conservation of natural resources, protecting, and

maintaining the natural environment, advancing safe farming and irrigation practices, to other interests. In 2012, the Jordan Federation of Environmental NGOs, also called the Jordan Environmental Union was launched and became Jordan's first environmental and nature protection coalition (Jordan Environmental Union, 2019). Its purpose is to raise awareness and support on environmental causes and advocate for progressive policy and governance. Its eight founding members – now nine – bring in a mix of new and old organizations, with a wide range of expertise and concerns, including the protection of water resources and calling for better water management practices (Al Zu'bi, 2019). Through its members, the union aims to align and organize environmental organizations in Jordan to form a strong negotiating bloc with the government and strengthen CSO-public partnerships (Namrouqa, 2018b).

The Royal Society for the Conservation of Nature (RSCN), the oldest of the coalition's members, established in 1966, is a RONGO devoted to the conservation of Jordan's natural resources and biodiversity, as mandated by the government (Overview, 2015). Water resource conservation constitutes one of its main areas of focus and the organization has engaged in multiple water-related projects over the years. Another member of the coalition, the Jordan Environmental Society (JES), was established as an NGO in 1988 and is dedicated to the protection of the environment and its natural resources: water, air, soil, and wildlife. It has become the largest environmental NGO in the country, and focuses on raising public awareness, promoting community action, and engaging professionals and activists to influence the policymaking process. While its scope is wide, JES still focuses on water-related issues such as organizing World Water Day competitions for students to engage in water-related issues (JES, 2020a), participating in symposiums and conferences on water and wastewater management, (JES, 2020b) and regularly raising awareness on water scarcity and pollution through articles on its website.

A third notable member of the union, the Arab Group for the Protection of Nature (APN), is a modern independent NGO formed in 2003 that is concerned with the protection of the environment and natural resources against all hazards, be they natural or political. APN's efforts to contribute to the issue of water in Jordan have been varied. "The Green Caravan," one of its main programs, aims to reduce the rate of desertification, support local farmers, and raise awareness on the importance of agriculture. It focuses in part on sustainable resources management by ensuring the presence of an accessible water source and efficient irrigation techniques within small-scale farms (The Green Caravan?).

There are environmental actors that remain outside the scope of the union, such as Ecopeace MENA, a project-oriented NGO that brings together Jordanian, Palestinian, and Israeli activists to protect shared natural resources such as the Jordan River Basin, the Gulf of Aqaba, and the Dead Sea. Its focus on water conservation and management is reflected through one of their main projects, the "Regional NGO Masterplan for Sustainable Development in the Jordan Valley," which aims to convert a polluted river and a distressed economic area to "a model for river rehabilitation, economic growth, and regional stability" (EcoMENA 2018). This ambitious plan consists of 127 regional and national projects grouped into 7 strategic planning objectives, which include Sustainable Water Management and River Rehabilitation.

Flash Floods

The flash floods in the Dead Sea area that swept over 20 schoolchildren to their death on October 25, 2018, triggered a wave of grief and outrage among families and citizens. They criticized the government and the school for the negligence that resulted in the unfortunate death of the children. As a result, the families of the deceased protested around the school to demand accountability for its actions (Kershner, 2018). That is not to say that no anger was reserved for the government, since one expert noted that the Ministry should not have allowed school trips to occur during October because of the instability and unpredictability of the weather. The general public discontent about the incident pressured the government to open a probe to hold accountable those responsible on all sides (Namrouqa 2018a). A week after the incident, both the Minister of Education and the Minister of Tourism resigned after giving in to pressure from the public and the parliament. One MP noted that these resignations helped avoid a major confrontation between the government and the public due to recent popular discontent with authorities (Kuttab 2018).

1.4.3. Iraq

Background on Iraqi Civil Society

From the monarchical rule of the 1920s, to the subsequent decade of military coups in the 1960s, followed by the rise and fall of Saddam Hussein, until now, civil society has found it difficult to thrive and act. The US occupation of Iraq in 2003 and the overthrow of Saddam opened a new era for civil society, particularly with the support of International NGOs (INGOs) and donors. Civil Society Organizations (CSOs), as well as local NGOs, played a prominent role in alleviating the pervading humanitarian crisis caused by the breakdown of the Baathist state and the US invasion (Zouheiry, 2019). The formation of CSOs did not take place without its fair share of

issues. While some groups did organize with the intent to aid the people of Iraq, other organizations were created as mere proxies for political parties or simply with the purpose of gaining access to the massive humanitarian funds injected into the country (NGO Coordination Committee for Iraq (NCCI), 2011). Later years were marked by protests and strikes all over Iraq, starting in 2011 in Baghdad's Tahrir Square during the Arab Spring, followed by the protests of 2015 which denounced the corrupt government and its failing infrastructure, the Basra protests of July 2018, and finally the October Revolution of 2019. Throughout these periods of unrest, civil society and NGOs played many roles, from providing humanitarian aid to affected groups, raising awareness about human rights violations, shedding light on corrupt practices, and helping empower marginalized groups.

CSOs and NGOs, who are they?

The work of environmental CSOs and NGOs remained rather limited, as they required a specific skillset and expertise to be successful, according to Zouheiry (2019). The most prominent campaign to date concerned with preserving and ensuring access to water is the "Save the Tigris Campaign," a civil society advocacy campaign founded by a coalition of local and international NGOs to "save the World Heritage on the Tigris River from the impact of dams and other destructive megaprojects" (Save the Tigris, 2020a). The most well-known local environmental founding members, such as "Humat Dijla" (Tigris Rivers Protectors Association), Waterkeepers Iraq, Iraqi People's Campaign to Save the Tigris are also active on their own fronts and occasionally join forces through their coalition to create new environmental water-focused groups, such as "Humat Al-Forat" (Euphrates Protectors), organize workshops, and hold on-site visitations to affected areas (Iraqi Civil Society Solidarity Initiative (ICSSI), 2019). These groups receive support in various forms from notable INGOs and donors, such as Un Ponte Per (Italy), Corner House (UK), Countercurrent (Germany), and others.

Activities of CSOs and NGOs

A landmark activity, the "Mesopotamian Water Forum", has become a cornerstone of water-focused activism in Iraq. It aims to become an alternative civil society forum for water, or more precisely, "an open space to give voice to those who are marginalized and excluded from the discussion about water management in the Tigris-Euphrates basin" (Mesopotamian Water Forum 2020). Organized in collaboration with the "Save the Tigris Campaign", the Iraqi Civil Society Initiative, "Humat Dijla", INGOs and local NGOs from the region, it has been able to identify the major challenges faced by CSOs and NGOs in the region and presented key takeaways

to tackle those issues (Mesopotamian Water Forum 2019). This activity can potentially encourage and guide other CSOs and activist groups to engage in water issues both more effectively and on a wider scale.

As such, a network of water-focused activists has been progressively built by these different groups and has been contributing effectively to the cause in various ways. For instance, the newly formed "Humat Al-Forat", along with members of the "Save the Tigris Campaign" has started a direct dialogue with civil servants of the Environmental Department in Basra, which could lay the foundations for future consultations between activists and public figures (ICSSI 2019). "Humat Dijla" (The Tigris Rivers Protectors Association) (Humat Dijlah, 2020) has also led numerous initiatives, such as calling for the release of kidnapped activists (Save the Tigris 2019), organizing informative seminars on climate change in Iraq, in collaboration with other groups such as the Iraqi Social Forum (Save the Tigris, 2020b), writing informative articles and releasing statements on pertinent water issues (Humat Dijla, 2018). "Waterkeepers Iraq" is another example of a water-motivated group making efforts to protect the different water bodies of Iraq (Waterkeepers Iraq, 2015).

International NGOs and observers have also contributed to CSOs and NGOs through providing funding and international exposure with reports, campaigns, and articles. Human Rights Watch (HRW) has been active on the Basra Water Crisis by launching the #CleanWaterForBasra campaign which encouraged Iraqis to use the hashtag to raise awareness on the water crisis in Basra. They also published an extensive report on the details of the prevailing crisis with recommendations addressed to government officials, public figures, and humanitarian groups (HRW 2019).

Protests in Basra

Despite the best efforts of civil society and NGOs, water scarcity in the Basra region became considerably worse. The Basra water pollution levels that sent more than 100,000 people to the hospital sparked massive protests that rocked the region in July 2018 (HRW 2019). The grievances of protestors encompassed a wide range of issues, from electricity, water, basic infrastructure, corruption, and clientelism, all of which were voiced by the Basra protestors. The unemployed youth had plenty to protest about as well since they do not have access to economic opportunities because of Basra's worsening infrastructure and the lack of essential services (Hasan, 2018). As such, tensions were running high, particularly among tribe members and leaders who threatened to take up arms to defend themselves should police and army violence keep on escalating. These disputes are usually armed and violent, resulting in dozens of deaths and injuries, and can occur due to various water-related reasons

(Planetary Security Initiative, 2020). This goes to show that the water crisis does not only have an economic and environmental impact on the city of Basra but also destabilizes its security and safety. However, it is noteworthy that protests took a turn away from the usual sectarian tones towards a discourse of political mobilization centred on Basra's socioeconomic demands and regional identity (Hasan, 2018). Unsurprisingly, protests were met with aggressive repression from the state and some political parties, which caused injuries and deaths among the protestors. Even though protests managed to highlight the dire situation in Basra and bring international attention to the water crisis, water management in Iraq remains a failing process and suffers from rampant corruption (HRW 2019).

Conclusion and Key Takeaways

In conclusion, access to clean water is a major problem for many parts of the world, including the Levant. The WHO and UNICEF reported that 663 million people did not have access to improved sources of drinking water and more than 2.4 billion people lacked access to basic sanitation services in 2015 (WHO-UNICEF, 2013). It is within this context that the Human Right to Water and Sanitation (HRWAS) was recognized as a human right by the United Nations General Assembly on 28 July 2010. As such, access to water and sanitation should be a priority for decision makers and for governments. Governments will be compelled to spend more resources on infrastructure, water transportation, and waste management, while also minimizing the negative impact of climate change, pollution, and increasing demand on their valuable water resources (CSIS, 2018). Given water's fundamental importance and symbolism, any actions by state authorities or economic elites that violate water availability or quality could trigger public outrage and protest (CSIS, 2018).

In more recent years, the record of intra-national water conflicts took on many forms such as litigation, demonstrations, various forms of civic protest including civil disobedience in the form of non-payment of taxes or water bills, direct confrontations involving the destruction of property (e.g., destruction of water infrastructure) and at times the loss of human lives (Castro, 2007). Although these forms of water conflict have become widespread around the world, they tend to receive less attention in the mainstream water policy literature (Castro, 2007). While it may be possible that the predictions about

future international water wars are exaggerated, the occurrence of intra-national social struggles fuelled by water inequality and injustice is unlikely to diminish in the foreseeable future (Castro, 2007).

The Levant's water challenges – driven by climate change, population growth, urbanization, and mismanagement – are severe. There have been recurrent urban social protests over the poor quality of water services or the civil disobedience of water users who have decided not to pay their bills in protest to a recent hike in the tariff. In the years ahead, how Levantine countries respond to water stress, and how they close the trust gap between citizens and institutions, will affect government legitimacy and social stability.

At the strategic level, planning and development must be inclusive. Indeed, governments have to inform and consult the public through transparent platforms. Communication with consumers should also happen at the Operation and Maintenance level. Water service providers should communicate with consumers on all matters concerning supply (e.g., publicize rotation schedule), quality issues, development of projects, procurement, receipt of donations (as in the Case of Basra in Iraq), and others. The use of social media could be a great help in increasing communication quality between providers and consumers. Finally, governments that have invested in the development of early warning systems for flash floods to protect local populations must ensure that the system works within the societal context in which it is being applied to ensure communication is effective and swift. Miscommunication can be fatal and economically devastating in some situations. Alternately, civil society should also play an important role in resource management. Residents should be empowered to participate in the sound management of water resources. Users should support the enforcement of laws and regulations through communicating breakdowns, illegal tapping, etc. Such an approach would reinforce the relationship between authorities and the public and build up trust. In the Bisri case in Lebanon, it was evident how local politicians interfered in civil society protests and manipulated them in partisan discord to score political points against their opponents. Civil society groups must be careful and cognizant of such actions and should play the role of honest watchdogs who are well informed by science. Non-governmental watchdog organizations from civil society must be founded to monitor the performance of various stakeholders. These should include citizen's movements, trade unions, youth representatives, water users, and grassroots communities. The organizations must monitor and follow-up on all projects and actions undertaken by the water sector in Lebanon,

access all types of information to monitor and maintain transparency, and propose laws, rules, and regulations. Here, the role of science is very important. Independent research institutes and think tanks should be more active in publicizing their research, informing the public, and even moderating conflict resolution platforms and mediation efforts.

Governments of the region are often institutionally weak with little or no accountability for authorities and service providers concerned with the management of water resources, with many lacking good water governance. Embedded corruption and vested interests have crippled the advancement of the sector. Acceding to international

water agreements could be a very important step that Levantine states may initiate to advance the public consultation processes on water issues. The Water Convention¹, one of five United Nations' Economic Commission for Europe (UNECE) negotiated environmental treaties, to improve national attempts and measures for the protection and management of transboundary surface waters and groundwaters. The text of the convention frequently mentions the need for decisions to be made available to the public. Article 16 of Part II tackles public information measures². Such an accession would help mainstream, at a minimum, the sharing of information on water projects with the public, thereby increasing trust between authorities and citizens.

1

The Convention on the Protection and Use of Transboundary Watercourses and International Lakes

2

All three countries Iraq, Jordan and Lebanon have expressed interest in the acceding to the Water Convention. Lebanon did that during a national high-level consultation in Beirut. Jordan has decided to study the implications of joining the UNECE Water Convention, launching the process on 10 March 2015 with a national workshop on "Legal frameworks for transboundary water cooperation: Focus on the Water Convention", in Amman. And finally, Iraq confirmed its intention to accede to the UNECE Water Convention in 2016.

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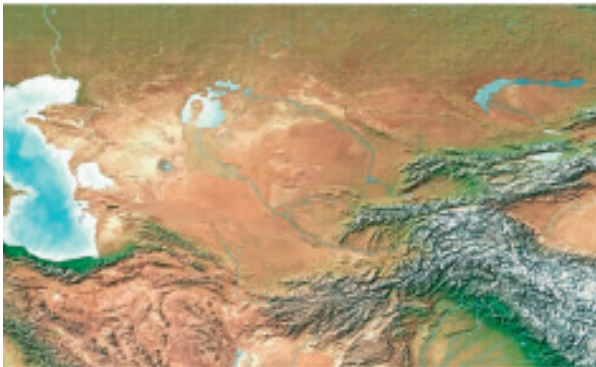


Chapter 7

Youth Commitments for Water and Peace



The challenges facing the water sector have caught the attention of youth from all over the world. They are providing outstanding methods that are easily adaptable to the needs of different regions and their water security challenges. Youth look forward to influencing the focus and priorities for more sustainable water management as soon as possible. In South America, youth have put the integration of transboundary cooperation in education, biodiversity protection, and climate action at the top of the youth agenda. In the Central Asia region, young people not only expanded their knowledge on many aspects of water management (IWRM, region, SDGs, etc.) via reading, research and communication with experts but also substantially improved their soft skills (writing, presentation, speaking and others) through an Integrated Water Resources Management contest. Young leaders from the region also decided to invest in river basin organizations as a key space to take part in water resources management. In the MENA region, on the other hand, the agricultural sector provides many living opportunities for youth, and the youth worked on innovative methods to increase their resilience in handling water scarcity. In addition, European youth take the lead in believing that multilateralism is the way forward for an equitable world of peace, and they are standing for peace, environmental sustainability, and humanitarian principles beyond political boundaries, in the EU and beyond.



During 2020, young leaders from around the world worked on this contribution for the Global Observatory on Water and Peace, which was developed by global and regional youth networks such as Central Asia Youth for Water, World Youth Parliament for Water, and the European Youth Parliament for Water, with support from the International Secretariat for Water, a Montreal-based organization. Each contribution reflects concrete ways for youth to shape the future of water as one of peace and secured water.

In South America, treaties on transboundary water resources often take a long time to resolve tensions between countries. In the future, not all countries will be able to modify treaties freely because of internal political decisions which may possibly cause some tension. Youth can be part of the solution since they can more easily leave behind historical, cultural, and even economic constraints. They also understand that integration starts with cooperation. When included in decision making process, youth are a positive tool for development by creating a dynamic force to enhance social transformations. They can also serve as a tool to strengthen transboundary climate-energy-water diplomacy.

Integrated Water Resources Management (IWRM) gained popularity in different parts of the world due to its versatility. In Central Asian countries and Afghanistan, IWRM student contests are one of the ways youth facilitate and foster scientific collaborations. The contest aims to increase student interest in the water sector and provide an effective

way for youth engagement and empowerment. Central Asia Youth for Water supported youth participation by giving them a chance to participate in basin councils. Although there was enough support to let youth get involved in the basin councils meeting, the mechanisms for effective and sustainable participation remain a challenge.

In addition to the political conflicts in MENA, water scarcity has increased tension in the area, and there are competing demands for water, needed between agriculture, industry, and domestic use. Since agriculture has the highest rate of water use in these three main areas, youth took the initiative in developing ideas to help reduce the impact of water scarcity based on their study and through the adoption of agro biotech in the MENA region.

European youth are working for peace, environmental sustainability, and humanitarian principles for everyone. They believe that all the recommendations of the Global High-Level Panel on Water and Peace should be implemented. Sustainable water resources management and protecting the environment should be a top priority, even during time of conflict. Youth involved in water can take the lead as non-state actors in facilitating dialogue and communication on sensitive topics and taboos, through water and peace discourse. They see it as a way forward for a peaceful and equitable world in peace.

Contribution 1 South America – World Youth Parliament for Water

The role of youth in climate cooperation and in the ongoing negotiations to revisit the Argentina-Brazil-Paraguay hydroelectric agreements

The triple-border between Argentina, Brazil, and Paraguay is located in the Paraná Basin. The region is surrounded by two large water bodies: The second-longest river in South America, the Paraná River, and the Iguazú River, home of Iguazú Falls. Also, the Guarani Aquifer lies under the triple-border territory and is arguably one of the biggest reservoirs of freshwater in the world. The area is a multicultural cross border area with high tourism, commercial development, and is at the heart of fundamental hydro-political agreements and infrastructure efforts that aim at integration.

The binational hydroelectric plant of Yacyretá (Argentina-Paraguay) and the binational hydroelectric plant of Itaipu (Brazil-Paraguay) are the main examples of energy integration efforts in South America. The Itaipu hydroelectric plant is the second-largest hydroelectric plant in the world and the biggest provider of hydroelectricity because of the installed power and constancy of the Paraná River (in terms of annual accumulated production). The construction of this plant was proposed to solve the water sovereignty issue between the two countries that claimed possession over the land of the Seven Falls area, which is the power plant's lake.

Three nations joined or divided by their rivers

To better understand the historical context of the diplomatic standoff, it is important to mention the following events:

- In 1750, Portugal and Spain signed the Exchange Treaty vaguely establishing the boundaries of the Paraná River.
- From 1864 to 1870, the Triple Alliance War took place, setting a border dispute in the Seven Falls area.
- In 1872, the Loizaga–Cotegipe Treaty was signed by Paraguay and Brazil, re-establishing the borders of the two countries and dividing the territories from the Paraná River up to the Falls. However, the demarcation was never finished due to disagreements between the parties.
- During the 1960s, the dispute for Seven Falls

intensified when the hydroelectric potential of the Parana River was discovered. For the first time, the possibility of co-generating electricity was also considered, which led to the signing of the Iguazu Minutes in 1966 and showed the willingness of both sides to jointly study the use of water resources along the Paraná River, including Seven Falls. These discussions led to the signature of the Treaty of Itaipu in 1974, thus creating Itaipu Binational to manage the construction of the dam. The construction of the dam was completed in 1984.

- In 1979, the Tripartite Agreement for Technical and Operational Cooperation among Itaipu and Corpus was signed by Paraguay, Brazil, and Argentina. This Agreement established the rules and principles for the exploitation of water resources in the region and helped resolve conflicts and end some regional tensions between the neighbouring countries which were linked to the issue of transboundary water resources use.

Currently, Yacyretá and Itaipu are in the process of reviewing the binational treaties and Annexes C which determine the current prices of energy generation and economic logistics of the hydroelectricity dividends. Concerning Itaipu, one of the important points that will be discussed is how the Unit Cost of the Electricity Service will be composed in 2023. These negotiations will have a significant economic impact in the region, especially for Paraguay.

In the case of Yacyretá, the situation is less complex and unfavorable for Paraguay. Since the previous president promulgated the reversal notes that modify the Treaty of the Binational Entity Yacyretá (EBY), the country will no longer be able to modify the reversal notes that now remain in the hands of the Argentine parliament for final approval. Regarding Itaipu, negotiations will include different spheres, through the perspective of a political agreement with representativeness from national congresses and embassies, but also through a social agreement, with the participation of society in the construction of a negotiation agenda.

Youth-led organizations and initiatives as part of the solution

As a civil society, now more than ever before, it's imperative for youth to discuss and be part of the process, to leave behind historical, cultural, and even economical constraints, and to understand that integration starts with cooperation. It is important to understand that the negotiations mentioned above will heavily influence the future of regional dynamics and that a common reality is shared. As part of the youth from the triple border area, we envisioned creating a youth hub composed of several initiatives towards

transboundary water and climate cooperation, in which youth act as mediators and catalysts.

The goals of that youth hub include developing partnerships, sharing information, and experiences to foster social and environmental responsibility among stakeholders, while reinforcing citizen participation. Youth in the triple border have been a positive force for development and they are creating a dynamic force for social transformations when included in the decision-making process. Four organizations are introduced as part of this youth-led and youth-serving effort to strengthen transboundary climate-energy-water diplomacy.

The Latin American Observatory of Geopolitics of Energy (OELA): Geopolitics of Energy Resources, Infrastructure, Technology, Security and Energy Integration, is part of the Nucleus for Strategic Studies, Geopolitics and Regional Integration (NEEGI) of the Federal University for Latin-American Integration (UNILA) and was created three years ago. The team behind the Observatory is composed of members with multidisciplinary training, including students and researchers from the International Relations and Regional Integration, Political Science, Sociology, Economics, Geography, Chemical, and Energies Engineering fields.

The Observatory is structured around the following research topics: (I) technical cooperation and regional energy integration processes, (II) conflicts and wars over strategic resources; (III) innovation of energy production and infrastructure, (IV) energy Geopolitics in Latin America, with an emphasis on disputes over the control of energy resources, including disputes over nationalization, denationalization, and privatization of energy resources. It focuses on democratizing access to qualified information and research with an emphasis in Mercosur and South America, while fostering capacity building through continuous outreach activities.

We believe that it is necessary to encourage dialogue between the different sectors so that we can find a convergence point between the main objectives and challenges, and facilitate shared energy and sovereignty cooperation between these different sectors. Likewise, we identified the need for an initial cross-sectoral dialogue. Therefore, two years ago we facilitated the first open debate and dialogue on the geopolitics of conflicts, sovereignty cooperation, and integration: Itaipu and Yacyretá.

Official representatives from Itaipu (from both Brazil and Paraguay), academia, and civil society all participated in the II Colloquium on Energy Geopolitics, an event organized by the Observatory every year since 2017. This event allowed us to develop partnerships with

research groups directly involved in the negotiations strategic committee in Paraguay. Also, this motivated us to develop a research project in favor of regional cooperation and integration, focusing on binational and regional energy infrastructure.

Currently, we are working on a project called “Geopolitical analysis of the Energy Integration and Infrastructure Processes in the Brazil-Argentina-Paraguay Triple Border region: History, economy, diplomacy, and prospective scenarios for cooperation processes involving the binational of Itaipu and Yacyretá”. The research aims to carry out a multifocal analysis – from global, regional, and local contexts – to understand the historical and geopolitical context in which the Itaipu and Yacyretá plants are inserted as hydro-energy integration projects. Based on this, prospecting scenarios will be developed for future cooperation projects involving the two binational entities, aiming to promote South American regional integration, development, and sovereignty.

The situation pertinent to the renegotiation processes of the bilateral treaties Brazil-Paraguay and Argentina-Paraguay will be considered. The analytical efforts will culminate in the development of studies to analyze the prospects for the development of conflicts and cooperation processes, as well as strategic geopolitical scenarios to analyze the possibilities of progress for the said law suit. Finally, once the modelling and simulation of the scenarios have been carried out, the analysis and final discussion of the results will be carried out with stakeholders to identify the most appropriate energy alternatives in each scenario and expose the potential opportunities and failures that may occur in each scenario in developing regional energy cooperation.

Capacity building and climate cooperation also part of the Youth agenda

We decided to establish formal contact with the social-environmental responsibility office of Itaipu in 2015 (Brazilian side). Within the “Cultivating Good Water” (CAB, in Portuguese) initiative, we proposed the creation of a binational (Brazil-Paraguay) youth group to identify a common agenda and create a roadmap for youth action at the border. CAB worked as a platform to gather youth from 25 cities in the Parana Basin 3, the main region impacted by the construction of the dam.

A fundamental step was to understand that capacity building, climate action, and youth leadership were key priorities for the triple border youth. As an answer to those demands, the Youth Collective of the Parana Basin 3 was founded with the goal of fostering the development of socio-environmental and youth public policies at the local level, through

the intergenerational pact in favor of quality of life and citizenship. Since then, we have acted as an ideological connection to exchange knowledge between different sectors and stakeholders. We actively participated in the international-regional and local COYs (Climate Change Conference of Youth) as well as various UN Conference of Parties (COP), the World Water Forum in Brasilia, and several social forums. We had numerous dialogues with local public administrations and decision makers, creating partnerships for sustainable development and opportunities for youth.

At the same time, we understood that to formulate effective public policies we needed access to information and data, and that pollution in our rivers, biodiversity integrity and climate change don't have borders. We noticed a big gap in integrated transboundary management, which motivated us to create the Foz do Iguaçu Environmental Observatory (known today as the Moema Viezzer Environmental Educative Observatory).

We decided to tackle these challenges with a team of students and professors from UNILA. We worked together with authorities, universities, and researchers of the border in strengthening citizen engagement. We included the local community in several participatory methods due to the mixed local-cultural context to create the Local Environmental Education Public Policy and the Municipal Plan for the Atlantic Forest (PMMA) to guarantee progress for the recovery and preservation of transboundary biodiversity. Similarly, we partnered with the University of Leeds to develop the "Triangle City Cooperation: Building joint climate-resilient development in the Parana basin" project, an initiative of the Climate Resilient Cities in Latin America, Climate and Development Knowledge Network (CDKN), and Canada's International Development Research Centre (IDRC). We furthered research in climate change adaptation and identified strategies that can improve transboundary cooperation at the city level.

On the other side of the Paraná River, back in 2018, we decided to create the Paraguayan Youth for Water Network. Since then, we organize the National Youth and Water Forum every year, mobilizing youth across the country to take action in water security. Our goal is to empower young water-related students and professionals across the country through capacity building activities to develop cooperation projects and foster the development of SDG6 and SDG14 nationally. Besides the forums, we work to strengthen education efforts towards protecting the aquifer and translate material for rural communities. Also, we work towards replicating projects and initiatives with other youth organizations, government, and companies (like Itaipu and Yacyretá) as part of their

socio-environmental responsibility.

Cooperative youth action towards water conflicts prevention and transboundary processes ensures the sustainability of processes and creates a new dimension of youth empowerment. It also ensures that an intergenerational and intercultural dialogue on fundamental water-related issues takes place between those with experience and the disruptive but creative minds of millennials. Youth has to become the protagonist; it has to catalyze a sustainable transition. We are not the future, we are the present, we are innovators, we can connect the world and make the impossible happen in different ways.

We would like to acknowledge the World Youth Parliament for Water and the International Secretariat for Water for their support which allowed us opportunities to expand our actions, the Geneva Water Hub for the knowledge learned through the courses we took, which strengthened our work with different national stakeholders. We would also like to thank Blue Peace for its perspective, inspiration, and approach in transboundary hydro-diplomacy that allowed us to become local ambassadors of this powerful peacebuilding tool.

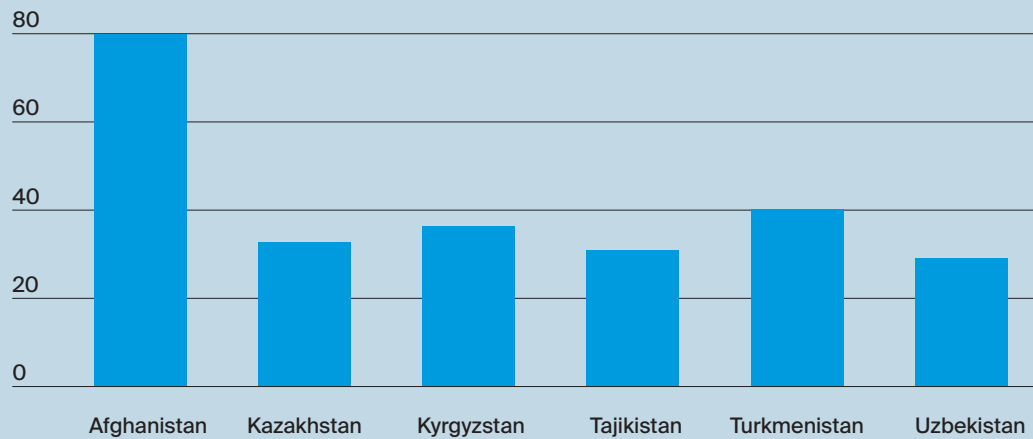
Contribution 2 Central Asia – Central Asia Youth for Water

Collaborative work between experts and young specialists in science, education, and research

The importance and effectiveness of scientific collaboration has been proven within the scientific community. Collaboration is defined as an interaction among scientists, such as young specialists and senior experts, that facilitates the sharing of different tools, innovative ideas, and goals towards solving complex problems and generating solid knowledge. Scientists say that many of the most creative advances come from younger researchers, but their slice of the research pie has shrunk considerably in recent years. Therefore, a critical task is increasing awareness of how engaging with young researchers improves overall research quality, especially among those researchers who do not engage youth in their work (Hawke et al., 2020).

Collaborative work can be more successful and leads to increased reliability, accuracy, and quality in research outputs when a well-structured platform for collaboration exists. Similarly, overall performance is

Figure 1: Participants of the IWRM contest, 2019



low when there is a lack of consistency and clarity on roles and responsibilities on existing platforms or if a well-structured platform for exchange is absent. In Central Asia, the “Central Asian Youth for Water” (CAY4W) Network (see the website) is a growing platform, which is actively facilitating and fostering scientific collaborations and youth involvement.

Starting from 2014, the Kazakh-German University holds the Integrated Water Resources Management (IWRM) student contest in Central Asian countries and Afghanistan on an annual basis. To further reinforce the youth-for-youth approach, the contest has been implemented with the support of the CAY4W Network since 2019. The IWRM student contest is organized on both national and regional levels. The national level contest, which takes place in each country, consists of a written and oral examination. The winners of the national-level contests attend the regional contest, which takes place in Almaty, Kazakhstan. The contest aims to increase the students’ interest in the water sector and provide them with an opportunity to interact with their peers and gain knowledge from senior experts. Water Days are organized during the IWRM water contests which provide an environment to share research findings with students and experts, as well as a venue to receive feedback and advice. In 2019, there were a total of 250 participants (see Figure 1.), 71 of which were female students. All the finalists of the national-level contests attended the regional contest during the First Aral Sea summer school (see the movie) organized by the CAY4W Network, with support from the Kazakh-German University, the

International Secretariat for Water (ISW), the Swiss Agency for Development and Cooperation (SDC), the World Bank (WB), the Global Water Partnership (GWP), the International Fund for Saving the Aral Sea (IFAS) and the “Barsakelmes” Nature Reserve.

The IWRM student contest is a powerful and effective way to engage with and empower youth engagement in the water sector that is gaining popularity. IWRM contests have numerous advantages that allow young participants to build personal and professional capacity as they go through the preparation and participation process. Indeed, **first**, to participate in the contest, young people need to thoroughly prepare, a particularly valuable exercise because it consists of both a significant amount of self-training as well as intensive cooperation with and guidance from professors, supervisors, and mentors. **Second**, when participating in the contest, young people not only expand their knowledge on water-related topics such as IWRM, regional issues, and SDGs, through reading, research and communication with experts but also substantially improve their skills in writing, presentation, and public speaking. **Third**, when participating in IWRM contests, young people have an outstanding opportunity to build networks and engage in intergenerational dialogue, where youth from the region interact both with peers and with senior scientists and experts from across the region. **Furthermore**, participation in the contest “opens new doors” by giving the winners a possibility to get further involved in other invaluable regional initiatives that the CAY4W network organizes. **Finally**, and most

importantly, the contest provides a regular platform for exchanging ideas, information, and knowledge. It is a way for young professionals to become inspired and broadens their horizons through new knowledge and opportunities.

Lessons/conclusions drawn from holding the IWRM contest:

- Initially, some of the six countries did not organize an IWRM contest in their country but joined the process later. One of the reasons for this may be the limited cooperation between the countries in the Central Asian region;
- Frequently, the current educational system forces students in schools to memorize material, instead of focusing on understanding and lifelong learning. This approach leads to a lack of inspiration and motivation to complete additional research, apart from the literature list provided by teachers necessary to prepare for an examination;
- We encouraged more female students to attend the contest, however, the tendency is that there is still most male students. This could be due to cultural, religious, or other reasons;
- Students may lack self-motivation to attend such contests due to limited support from teachers and supervisors. This could change if there was more interest from universities to establish partnerships and provide more opportunities for youth;
- Students need to have good skills in writing, communication skills, and public speaking to be able to present their ideas to participate in the contest. They must also be self-confident and not to lose their motivation if they don't win first place. This identifies a need for more capacity-building events and activities aimed at youth;
- Given technical limitations, such as poor internet and the absence of communication devices, it is difficult to disseminate information and announcement about events. This means that youth in remote areas are not able to participate in online events organized by the CAY4W network;
- Even if there are enough motivated young specialists who want to participate in events, they may have financial constraints such as insufficient funds to cover the travel costs necessary to travel to other cities;
- Most youth-oriented events are organized in more than one foreign language, which aims to reach a broader audience and allow for better quality discussion during the events. It is sometimes hard to collaborate due to the language barrier;
- In collaborative work, participants might want

to exchange ideas, get feedback on their research, and share pertinent research results to build up a strong network of professional contacts. However, not all participants are eager to share their research outputs due to a lack of confidence about the accuracy of their research output. Additionally, the lack of reliable data in the Central Asian region might limit opportunities for collaboration in the scientific community.

Contribution 3 Central Asia – Central Asia Youth 4 Water

Youth participation in river basin councils: a case study of Central Asia

During the last decades, integrated water resources management (IWRM) gained momentum in different parts of the world, proving its feasibility in different contexts. Since early 2000, countries in Central Asia started the transition to IWRM, which is currently at different levels of implementation. The five countries of the region, Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan are usually associated with the Aral Sea disaster and were part of the former Soviet Union until their independence in 1991.

One of the limiting factors for the full implementation of IWRM is poor civil society engagement (to varying degrees) in the countries of the region. Although people under age 35 represent half the population in the region, their participation in basin council meetings is usually limited to young officials representing the organization that employs them.

In 2017, young people in Kazakhstan advocated for participation in the basin council meetings and were allowed to participate in one of the meetings. Following this precedent, the right of youth to participate in basin council meetings was acknowledged in Kyrgyzstan in 2018. This initiative was bolstered by the members of the regional CAY4W (Central Asian Youth for Water) network supported by the International Secretariat for Water, German-Kazakh University and the Swiss Agency for Development and Cooperation. In 2019, CAY4W members of the network participated in the council's meetings in Kazakhstan and Tajikistan.

Youth efforts to be engaged in basin council meetings get little support from local authorities and governments. The mechanisms for youth engagement, their status, membership, voting

rights and other settings remain unclear even in Kazakhstan and Kyrgyzstan which were the first to acknowledge the right of youth to participate in the basin councils.

Even though youth participation in Central Asia is not happening fully, the first exercises allow us to conclude that youth participation in basin councils is justified. Firstly, in the context of Central Asia, characterized by strongly hierarchical societies, youth participation in basin councils is a way of building youth capacity and empowerment. Secondly, incorporating a diversity of voices about water issues during open consultative meetings contributes to challenging the top-down culture in the region. Thirdly, the wide coverage of the basin council attracts youth from the basins, including youth in remote areas, who are usually left behind. Such a participatory exercise contributes to building linkages between education and practice which is often missing in most developing countries.

Both youth empowerment and capacity building are important tools needed to face the complexity of water-related challenges in the future. Youth participation in river basin councils can be considered a strong tool that could be also used in other parts of the world.

Contribution 4 MENA region – World Youth Parliament for Water

The role of youth in the adoption of agro-biotech in the MENA region

With continuous population growth and the excessive consumption of natural resources, the world must focus on maintaining the sustainability of its resources. Agriculture Biotechnology is defined as the full understanding of biological agents and the direct or indirect usage of biotechnology for the betterment of agricultural sectors. For instance, the Green Revolution against hunger, led by Norman Borlaug, used crossbreeding techniques based on classical genetics to produce semi-dwarf wheat, high productivity, and disease resistance.

The MENA region suffers from numerous problems due to conflicts in many areas and the agricultural sector could provide many livelihood opportunities for youth. Their roles could be centered in agro-biotech development as it could provide various solutions for these countries. Agriculture biotechnology began to be taught in the 2000s in

universities in the MENA region with the aim to fill the needs of the marketplace and handle the challenges and obstacles in the region, where climate change has affected all aspects of life.

Palestine is a good case study since most of its universities adopted biotechnology programs in the 2000s. Today's youth are the future of the world, and their increased awareness of the agro-biotech field can enhance the sustainable exploitation of the available resources to produce products with minimum harm to the environment. Students can share their ideas and research with business incubators both during their studies and after graduation. For example, Entrepreneurs 2 is a project led by the Islamic University of Gaza, funded by The Arab Fund for Economic and Social Development with a contribution from local NGOs to mitigate the youth unemployment rate.

These business incubators motivate youth to integrate agro-biotech into the region's agricultural practices. They also encourage youth to work on their startup projects. A few examples of startup projects include research on bio-pesticide as an alternative to chemical pesticides, plant tissue culture for plants more resistant to climate change and pathogens, methods to improve livestock feeds using Azolla, a plant that can grow on water with a high concentration of nitrates. Water availability is a challenge in the area since electricity shortages cause difficulties for water treatment systems.

Water efficiency is the only solution, so using new technologies like aquaponics and hydroponics are some of the tools to help tackle the water issue. The strategy should include school lessons and technical workshops that aim to contribute increasing water and food securities (consuming fish from aquaponic systems would be safer than sea fish, due to wastewater being pumped directly into the Mediterranean Sea during parts of the year when there is insufficient energy for water treatment units to work). Another tool was conducting research to understand the responses of plants to stress conditions like salinity and drought.

Most of the research was a success, with help from the Ministry of Agriculture. For example, bio-pesticide using *Bavaria Bassiam* against *Tuta absoluta* and obtaining enhanced seedlings for potato, pineapple, and stevia in a short time yielding large quantities.

However, youth face many challenges include:

- Limited financial capabilities, business incubators can't offer all the financial support to agro-biotech projects and some materials can't be found on the market.
- There is a need for more workshops to improve the use of some agro-biotech techniques by youth.
- Electric shortages negatively affect growing conditions for plants in the tissue culture technique.
- Lack of access to sufficient education and limited access to resources.
- A need for cooperation on research between the countries of the MENA would bring great opportunities to improve the agriculture sector since the area has the same climate.
- Some bio-pesticide failed in field testing by the Ministry of Agriculture and cannot get a certificate for use.
- Some bio-pesticide failed to be used as an alternative for chemical pesticides due to a lack of marketing skills.
- Doubt from farmers on the efficiency of bio-pesticide due to lack of trust and knowledge about the benefits.
- The low job opportunities in the agro-biotech field.
- Water salinity in the area suppresses the predicted efficacy due to the negative effect on plants.

at large. Access to water and sanitation is a human right and water governance is a democratic process.

The recommendations of the Global High-Level Panel on Water and Peace are very insightful but have some limitations in practice. Where international humanitarian law and human rights are respected, there is no armed conflict. The priorities differ on each side of an armed conflict and saving the environment is the last priority. During the recent war in Nagorno-Karabakh, forests in the Nagorno-Karabakh region were burned by chemical phosphorus weapons that remain in the land for a long time and have an impact on groundwater sources and rivers. Therefore, the population of the conflict zone and the environment they live in got the heaviest blow.

In some cases, water is used as a weapon, a tool to put pressure on the other side which can trigger an armed conflict. When water is a target, it can even lead to a humanitarian catastrophe during and after the armed conflict such as when an upstream country is building several water dams and significantly decreases water flow to the downstream country to put political and economic pressure on them. Another example is when water infrastructure (hydropower plants, drinking water supply, sewerage, and irrigation systems) are deliberately targeted, aiming to expel a population from a conflict zone and gain military advantage. This was the case in the recent Nagorno-Karabakh armed conflict when key infrastructure was severely damaged by regular bombardments and the population was left without essential services. They were forced to seek refuge in large groups in basements and bunkers, thus further increasing the spread of the coronavirus within these confined spaces. Access to water, sanitation, electricity, and gas has been partially restored after peacekeepers arrived. The armed conflict has stopped but the conflict is ongoing, so another major concern is to protect water sources and water bodies from deliberate pollution. The ethnic cleansing and hate speech towards the population of Nagorno-Karabakh before and during the recent war resulted in a new order of military forces and new frontlines in this territory. In addition, the water needs of people living in conflict zones, like the population of Nagorno-Karabakh, should be embedded in future agreements.

Thus, cooperation between people sharing the same river catchment area, neighboring countries, and municipalities is of the utmost importance to secure the right to water for the local population. During these unprecedented times, when the world is facing global challenges – climate change, migration, a pandemic – it is

Contribution 5

Europe – European Youth Parliament for Water

Water, Youth, and the Pursuit of Multilateralism

From water drama to the establishment of “Agency”, we need to accept that the path ahead will not be easy. When we talk about peace and conflicts, there is a fine line that separates peace and conflict from politics and the world that surrounds it. The same is true for the water and peace discourse. Challenges can be solved if we set the rules of the game beforehand and if we take an evidence-based and holistic approach. It means taking a position, according to our values and principles, and calling things by their real names.

What is the youth position? Whether it is before, during and after the armed conflicts, European youth stand for peace, environmental sustainability, and humanitarian principles in all parts of the world, beyond political boundaries, in the EU and Europe

more important than ever to work together to build a better world. We need to strengthened multilateralism by joining all our efforts and using water for peace to increase stability in the EU and the rest of Europe.

Whenever we speak about global cooperation, we need to acknowledge young people's capacity for multicultural understanding and their ability to unite around common global goals so that we can build resilience to these global challenges. European youth in water can take the lead as non-state actors in facilitating dialogue and communication on sensitive topics and taboo issue, through the water and peace discourse. Indivisibility and diffuse reciprocity are the very core of multilateralism and youth see it as the way forward for an equitable, peaceful.

Where the intervention of international organizations can pass very close to the fine line of politics, the Youth organizations are more independent than international organizations working within the confines of politics and can thus be involved in implementing tools in the EU and the rest of Europe, such as the Geneva List of Principles on the Protection of Water Infrastructure.

How loud can a youth voice be? Youth needs to make sure that we stick to our leading principles despite the politics that surround us.

Youth are inheriting armed and water conflicts, generation after generation. We see the youth of Europe as pioneers in preventing future conflicts since this will determine our lives and the future of the world. Youth need to be heard on the highest platforms, even if our message is critical. A difference in perception and a dialogue on differing views of a challenging topic leads to better outcomes.

Conclusion

Today's youth should be heard because they have not just raised their voices but have also taken action and proven they can bring about positive change. They learned many lessons from these actions and have a vision for what future priorities should be. Youth can promote the advantage of inclusive,

multidisciplinary, and innovative approaches. They can bring fresh and credible ideas and promote responsible leadership policy and decision making.

Water, the effects of climate change and the environmental crisis are all transboundary and transgenerational challenges. Therefore, everyone – youth and the international community – should unite to find solutions together and shape a sustainable future. Youth are important stakeholders in the future of water. It is thus necessary that they are represented in decision making within organizations and government agencies, through employment opportunities for young professionals in the water sector.

More collaboration between experts and young specialists in science, education and research could close research gaps. Sadly, in many developing countries, data is unavailable to young researchers. Also, there is also a need to provide more financial incentives for scientific projects involving young professionals. Early training and the inclusion of young or early-career scientists in programs would guarantee a better-trained future. When building research teams and working groups, funding should be allocated for the inclusion of local youth. This will provide early training for youth, and through the inclusion of youth, local knowledge will be provided to these research programs so that a truly transdisciplinary research program is created. Youth and young professionals are less likely to be siloed into singular sectors or disciplines than highly specialized mid-career professionals. The broader, more open perspective of young professionals can be a valuable tool in generating connections between water and other economic activities in which benefits are shared between groups and can thus promote peace.

In conclusion, youth can take the lead as non-state actors in facilitating dialogue and communication on sensitive topics. By letting new generations, which are often more open-minded, play a more active role in decision making, old taboos and tensions can be countered, and discussion can progress. Organizations should take the lead in creating and funding a youth working group, such as a youth panel to be involved in GOWP, so that youth perspectives on building peace through water management are included.



Chapter 8

Empowering 21st Century Water Diplomacy through Active Female Leadership

Knowing that no one will ever understand unless they've been through it themselves, six female water experts from Egypt, Greece, Jordan, Lebanon, Morocco, and Palestine decided to act and combine their efforts to explore the role of, as well as and challenges faced by women involved in water diplomacy in the Middle East and North Africa region (MENA).

This work resulted in conducting a comparative analysis in Egypt, Jordan, Lebanon, Morocco, and Palestine to identify similarities and differences in the challenges women water experts face to be promoted to decision making positions in water diplomacy and (transboundary) water cooperation settings, and to identify the capacity building needs for the skills of a 21st century water diplomat.

These efforts have been institutionally supported by the Global Water Partnership-Mediterranean (GWP-Med) and the Geneva Water Hub since early 2020, and have primarily taken the form of technical/mapping work on the current status and challenges facing women in water diplomacy/ transboundary water cooperation settings in the MENA region. The work capitalizes on the methodology used for a similar mapping exercise undertaken in Jordan, Lebanon, and Palestine in 2017.

This contribution was prepared by the *Initiative on Empowering Women in Water Diplomacy in the Middle East and North Africa (MENA) region*. As part of the 2022 GOWP Report, it provides insights on female leadership in water diplomacy. It is structured around three parts: The contribution starts with personal testimonies by the co-leaders of the Initiative, followed by selected highlights from the Comparative Study that forms the basis of the Initiative, and concludes with reference to activities and progress made during 2021.

I Personal testimonies on challenges facing women in water cooperation settings

Eng. Natasha Carmi, the Lead Water Advisor at Geneva Water Hub

When Natasha Carmi, an engineer and policy advisor on Water and Environment, joined the Palestinian Negotiations Support Project in 2010, she had the additional challenge as a woman water expert and mother to fill in the shoes of a position previously held by male colleagues in the male dominated sectors of water and negotiations. Carmi has been working with water resources and environmental challenges in the Middle East for almost two and a half decades and has succeeded in enhancing her position as an advisor on water issues in a field usually dominated by men and participated in water-related negotiations in various settings.

However, this success is just the tip of the iceberg since Carmi faced many challenges being a woman in male-dominated disciplines and sectors which began as early as university and the choice of her area of specialization. She realized over the years that while it may seem that these challenges are particular to the MENA region, they are in fact faced by women globally, with varying scales and relativity.

Moreover, these challenges shaped and contributed to her professional and personal development and enriched her experiences and expertise. Thus, after twenty years of experience, and with five like-minded women water experts, it was inevitable that she would launch this initiative to empower women in water diplomacy, with the purpose of breaking down the obstacles that prevent women from rising to senior decision-making positions, and work with a network of capable and interested women to overcome those obstacles.

Carmi said: “What we want to achieve with this initiative is to narrow down the obstacles and to offer assistance in terms of capacity building and mentorship to women who aspire to lead in water diplomacy in a region where transboundary water cooperation is a necessity for sustainable development and sustainable peace.” Furthermore, the initiative hopes to encourage female youth to specialize in disciplines traditionally considered

“male” sectors, and to ensure that 21st century water diplomacy is in line with the Sustainable Development Agenda of 2030 of leaving no one behind,” she added.

“This is more pertinent and necessary now as we all live through the COVID-19 pandemic, in which humanity has no choice but to include all stakeholders in its fight for a safer, more sustainable future” Carmi concluded.

Does Carmi’s experience apply to the other women experts taking part in this initiative?

Eng. Charafat Afailal, Former Moroccan Minister in charge of Water, Expert on Water and Climate

In Morocco, Afailal’s experience resonates with Carmi’s. Afailal explained that “to assert oneself as a woman in the male-dominated water sector is in itself a big challenge, but being a successful female Minister is a multiple challenge, especially in an Arab country dominated by a patriarchal culture.” However, seriousness, credibility, and mastery of the water profession were the keys to the success of her mission at the head of the Ministry.

Like everywhere, the water sector in Morocco is “strongly male-dominated, despite the availability of highly-skilled females.” Afailal said, “It is time for men to share responsibility with women, who possess the intelligence, skills, and perseverance, like you, and this is very important. This statement has introduced the change and restored the balance of power in the Moroccan Ministry of Water and was made during the launch of the project on institutionalising gender in the water sector with the support of UN WOMEN which has achieved promising results in terms of the promotion of females.” Afailal points out that “the implementation of gender mainstreaming aimed at a good understanding of the differences between women and men in terms of access, use and control of water will ensure better access and better governance of this resource”.

Even though Morocco has no shared transboundary water resources with other countries, Afailal believes that by joining this initiative, she could, along with the key water experts, promote female leadership in water governance bodies and strengthen the role of women in resolving local water conflicts.

***Dr. Tahani Sileet,
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Director-NBI National Office at Nile Water
Sector-Ministry of Water Resources and
Irrigation in Egypt***

Unlike Morocco, Egypt is a region where hydro-politics prevails, especially considering the negotiations between Egypt and Ethiopia on the Grand Ethiopian Renaissance Dam (GERD). Thus, due to the very critical hydrological conditions in Egypt, the water stress, the high dependency on the Nile water originating from outside its borders, together with all environmental and demographic challenges, water security is a key issue to which great importance must be accorded. The multidisciplinary nature of hydro-politics imposes the necessity to acquire different skills and a variety of knowledge, together with a good exposure to all regional and international experience in transboundary water management.

Sileet points out that despite the high ratio of female engineers working in the water sector in Egypt, especially in the Ministry of Water Resources and Irrigation, with some in high decision-making positions, we can't find many in the field of hydro-diplomacy. Therefore, by joining this initiative, she is seeking various opportunities for capacity building and mentorship for females working in the water sector, especially targeting middle management and young professionals so that they can find their well-deserved place at the negotiation table based on their professional knowledge, capacities, and skills.

As a female water expert in the region, the main challenge that Sileet faced was the decision to prioritize family commitments which delayed her career path for several years. This was a personal choice that she never regretted. Ever since she has returned, she is continuously learning to compensate for the gap years and to try to earn a good position in the field about which she is passionate. Sileet said, "I am still trying, learning, and progressing in order to correct misperceptions and mindsets by gaining the trust and support of my superiors."

Furthermore, and especially in the case of Egypt, she believes that "water negotiation is inevitable and it is an ongoing and eternal process, not only on GERD (although it is one of the most important and critical issues due to the extremely high storage capacity of the dam, its location on the Blue Nile, the main contributor to the Nile water arriving in Aswan, in addition to the absence of prior notification which totally contradicts the norms of International Water Law), but also on the Cooperative Framework Agreement and all possible upcoming

transboundary water issues." Knowing this, Sileet recommends that the pool of female water professionals needs to have extensive knowledge of hydro-diplomacy, the principles of International Water Law, and negotiation skills to be well prepared and ready to participate and lead future water negotiations.

***Ms. Maysoon Zoubi, International Water and
Water Diplomacy Expert and former Secretary
General at the Jordanian Ministry of Water
and Irrigation***

Maysoon Zoubi's experiences serving as Secretary-General at the Ministry of Water and Irrigation was not a smooth journey, given numerous challenges to the advancement of women in decision making and leadership, and influenced as much by internal and domestic constraints as by external barriers. However, these challenges have shifted over time, as women move through different stages of their lives and careers.

One of the key challenges Zoubi has faced in her career and in her attempts to progress further to where she is now "is the mentality, which society holds of the traditional female role, that women have to work hard to claim their rightful place and demonstrate that they can also contribute and bring value. Additional challenges include inequality in the workplace, garnering support from other women, experiences of gender discrimination from male counterparts, limited networks since women do not have visible roles and lack access to both local and international links".

These challenges made Zoubi feel a responsibility to help similar women who want to advance and reach decision-making positions, and she is eager to provide assistance, advice, and to share her experience. "This was the main reason why I joined this initiative," she concluded.

***Dr. Anthi Brouma,
Deputy Regional Coordinator, Theme Leader
on Diversity, Global Water Partnership-
Mediterranean (GWP-Med)***

One might expect the situation in the water sector and on the overall role of women to be different since Anthi Brouma is from Greece, a country that has been institutionally part of the European Union family since 1981. However, the challenges and obstacles facing women who aspire to leadership positions in the water sector are not so fundamentally different in Greece, compared to the MENA and the wider Mediterranean region. Our beautiful region is a refined and resilient mosaic: a mosaic of peoples

with deep roots, various ethnic and historical backgrounds, and memories imprinted in their DNA; a mosaic of civilisations, religions, ideologies, and philosophies. Despite changes, the centuries-old outline patterns remain surprisingly visible and present, with the strong patriarchal society and a culture that bluntly discriminates between male and female among such patterns.

On a personal level, Anthi's experience bears strong similarities to the experiences described by the other water experts. Being part of a minority within a male-dominated sector, she was often treated as a subordinate, with her sex and age counting as shortcomings in planning and decision-making processes, especially since she leads GWP-Med's portfolio in the MENA region. Walking the extra mile has been the rule and a prerequisite for securing that her voice is heard and respected. Furthermore, being a water expert from the political science, law, and international relations academic fields, has often been considered a deficiency, even by female colleagues, so the long-standing perception of the water sector as the rein of engineers was an additional challenge to overcome.

There was not a shred of hesitation for Anthi when the opportunity came to design, together with five other passionate women, a line of work to address the challenges to female leadership in the field of water diplomacy and transboundary water cooperation. This collaboration was based on trust, shared experiences, and a strong belief in women as agents of change. It was also based on frustration with the small number of women in leadership and decision-making positions and a shared desire to use evidence to halt the continued under-estimated role of women. Together with the team of female water experts, Anthi is determined to make a change in female leadership in the water sector and is a strong believer in the impact of collective work. She aspires to expand the positive outcomes of the work further within and beyond the MENA region and the wider Mediterranean. Aware that often it is the lack of confidence and psychological barriers that hold talented women back, it will be most important to invest in stopping these self-inflicted limitations and mark a shift towards a genderless, ethical, and meritocratic cultural paradigm in the region.

Ms. Mey Al Sayegh,

**Communication Manager of the Lebanon
Crisis Response Plan (LCRP) at Ministry of
Social Affairs.**

Unlike some of the other experts, Mey Al Sayegh does not have an engineering background in the water sector. However, since she is a specialised water journalist and communication manager and given that the Lebanese media echoes a patriarchal discourse rather than using its position to encourage narrowing the gender gap, she believes she has a soft power that she can utilise to advocate for gender-mainstreaming in water diplomacy. She said: "It is true that there is a very long way to go, but by highlighting the main barriers, journalists in collaboration with experts could explore the means to overcome them and inspire with examples from other countries that succeeded in enjoying the fruits of women's inclusion in water negotiations or governance."

She pointed out that in December 2020, non-governmental organisations (NGOs) in collaboration with the media were the "frontrunners of societal change" who pushed for the parliament's endorsement of a landmark law criminalising sexual harassment which would send the most flagrant perpetrators to prison for up to four years and pay fines up to fifty times the minimum wage.

II Highlights from the Comparative Study on Empowering Women in Water Diplomacy in the MENA region

Why did this Study come about? What does it concern?

For water diplomacy to bear fruits, the inclusive participation of all stakeholders, including women, in the process is an absolute must. However, the role of women in water diplomacy related decision making has been underestimated, despite the acknowledged essential role of women in peacebuilding, conflict management, and sustaining security, as reaffirmed by the landmark United Nations Security Council Resolution 1325 on Women, Peace and Security (adopted on 31st October 2000¹) and by the eight

resolutions on the issue adopted thereafter.²

The presence of women in decision-making positions in the water sector is not an end, nor is it exhausted by securing quotas and sharing seats. It is part of a comprehensive approach towards water security that effectively addresses diversity, inclusion, social equality, and women's role in the integrated and sustainable management of water resources.³ Evidence shows that gender equality is critical to achieving the totality of the Sustainable Development Goals (SDGs)⁴ and the Paris Agreement⁵, however, the related research usually focuses on how policies affect women as if they are only passive victims.⁶ The situation in the MENA region is no different, where gender inequality concerns have traditionally taken a back seat to the "larger" or "more urgent" issues of civil wars, foreign interventions, unemployment, corruption, and authoritarianism.⁷ When it comes to the issue of water in water diplomacy, the situation is even more dire.

In view of the above and aiming to strengthen the role of Women in Water Diplomacy with an emphasis on the Middle East and North Africa region, the Global Water Partnership-Mediterranean (GWP-Med) and the Geneva Water Hub joined forces at the beginning of 2020 and initiated a partnership on this critical issue. The collaboration began in the form of analytical/ mapping work on the current status and challenges facing women in water diplomacy and transboundary water cooperation settings in the region, building upon a previous mapping exercise conducted in 2017 in

three Levant countries (Lebanon, Jordan, Palestine)⁸ and adopting the same methodology of surveying and interviewing women in water-related institutions. The recent analysis reviewed and updated the work in the three countries and expanded the mapping to the Maghreb sub-region by including the cases of Egypt and Morocco.

More specifically on the methodology, a short questionnaire was developed to map the main challenges facing women which prevents them from taking a more leading role as women in water diplomacy and decision making. The questionnaire was designed to provide specific insights into the following main issues:

- Their current status in the Water Sector in their national countries.
- The main bottlenecks/factors holding them back; and
- Their perceptions on the role of water diplomacy.

Importantly, the questionnaire was a dynamic document that was adapted and adjusted as necessary to respond to specific country contexts. In all countries, attention was paid to selecting female representatives of all actors involved in the water sector, including government authorities at different levels, utilities, private sector, academia, NGOs, elected women, and in the case of Morocco, female farmers. The selection of the respondents was based on the experience of the author in her country, also utilising professional networks and aiming to be as representative of the water sector spectrum as possible. A total of 93 women from five countries

<https://www.un.org/womenwatch/osagi/wps/#resolution>

²

<https://www.unwomen.org/-/media/headquarters/attachments/sections/library/publications/2017/wps-resolutions-poster-en.pdf?la=en&vs=4004>

³

<https://www.gwp.org/globalassets/global/about-gwp/publications/gender/gender-action-piece.pdf> The GWP Gender Action Piece includes four action areas with tangible recommendations on how to drive gender equality and inclusion in water resources management.

⁴

https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&cad=rja&uact=8&ved=2ahUKEwion5yp7ezqAhWL-6QKH5r1Ag8QFjALegQIAxAB&url=https%3A%2F%2Fwww.undp.org%2Fcontent%2Fdam%2Ffundp%2Flibrary%2Fgender%2Fgender_equality_as_an_accelerator_for_achieving_the_SDGs.pdf&usg=AOvVaw1VbdhIhnDBzyghl_342un6 and <https://www.unwomen.org/en/news/in-focus/women-and-the-sdgs>

⁵

https://unfccc.int/files/gender_and_climate_change/application/pdf/leveraging_cobenefits.pdf and <https://www.unwomen.org/en/how-we-work/intergovernmental-support/climate-change-and-the-environment>

⁶

<https://www.iwra.org/wp-content/uploads/2020/07/PB-6-July-2020.pdf>

⁷

<https://www.worldbank.org/en/region/mena/brief/our-new-strategy>

⁸

The first mapping exercise has been published as an article in the *Journal of Hydrology* 569 (2019) 330-346 entitled *Empowering women in water diplomacy: A basic mapping of the challenges in Palestine, Lebanon and Jordan*.

participated in the survey and the interviews.

The analytical work resulted in the publication *Empowering Women in Water Diplomacy in the MENA Region: A Comparative Study of Egypt, Jordan, Lebanon, Morocco and Palestine* that focuses on identifying the similarities and the differences in the challenges female water experts face across the five countries and identifying the capacity building needs in terms of the various skills needed as a 21st century water diplomat. The Study is structured around three main sections: baselines for the five countries on the role of women in water diplomacy; a cross-country analysis of findings; and a section on the qualities of a good water diplomat.

The Study was developed with financial support by the Swedish International Development Cooperation Agency (Sida) in the framework of the Water Matchmaker Project, and the Swiss Agency for Development and Cooperation (SDC). It was formally launched on 15 March 2021, as a symbolic date between the celebrations of International Women's Day (8 March) and World Water Day (22 March). The event was co-organised by GWP-Med and the Geneva Water Hub, within the framework of the Union for the Mediterranean (UfM) Water Policy Framework for Actions 2030.⁹

What has the comparison revealed?

The persistence of discriminatory ancestral practices, further combined with a conservative socio-cultural context, constitute the main barriers to the involvement of women in public life in the MENA, despite the efforts made at different levels. Women in the region continue to occupy a secondary social role, which makes their contribution to national economic growth weak, including the fluctuating water industry that would benefit significantly from a well-balanced and diverse management and leadership. Despite the reforms undertaken and the progress achieved towards the promotion of women's rights in the MENA region, the socio-cultural variant remains influential and significantly affects the balance of power between men and women in the

decision-making sphere. The unequal distribution of domestic and family tasks within the societies of the MENA region hinders the empowerment of women and influences their access to power.

Through four areas of analysis, the comparative section of the Study assessed the needs and identified priority areas for capacity building and mentorship programmes. The areas of analysis concerned are:

- The main factors contributing to the workplace male-female ratios according to the female respondents;
- The factors that influence the acceptance of a decision-making position, according to the female respondents;
- The skills needed to better lead in water diplomacy positions, as per female respondents; and
- The definition of water diplomacy according to its use, as understood by the female respondents.

For the purposes of the GOWP Report, the presentation of the comparison will focus on areas 1 and 3, to give a flavour of the analytical work. The full analysis, with references and material, is available in the publication of the Comparative Study.

A The main factors contributing to the workplace male-female ratios according to the female respondents

During the development of the questionnaire among the first three authors for Jordan, Palestine, and Lebanon in 2017, the six (6) factors that were chosen, were those traditionally identified in overall gender mainstreaming research, including a male dominant society, the absence of the proper legal, legislative, and policy frameworks.^{10,11} The other two factors were included in line with the working assumption that there are elements within the control of women water professionals, that could be worked with, in order to increase the pool of female expertise in water diplomacy, and shift negative perceptions towards successful female

9

More information on the formal launching, is available at: <https://www.gwp.org/en/GWP-Mediterranean/WE-ACT/News-List-Page/2021/women-in-water-diplomacy/> and <https://www.genevawaterhub.org/news/initiative-empowering-women-water-diplomacy-mena-region-launching-comparative-study-egypt>

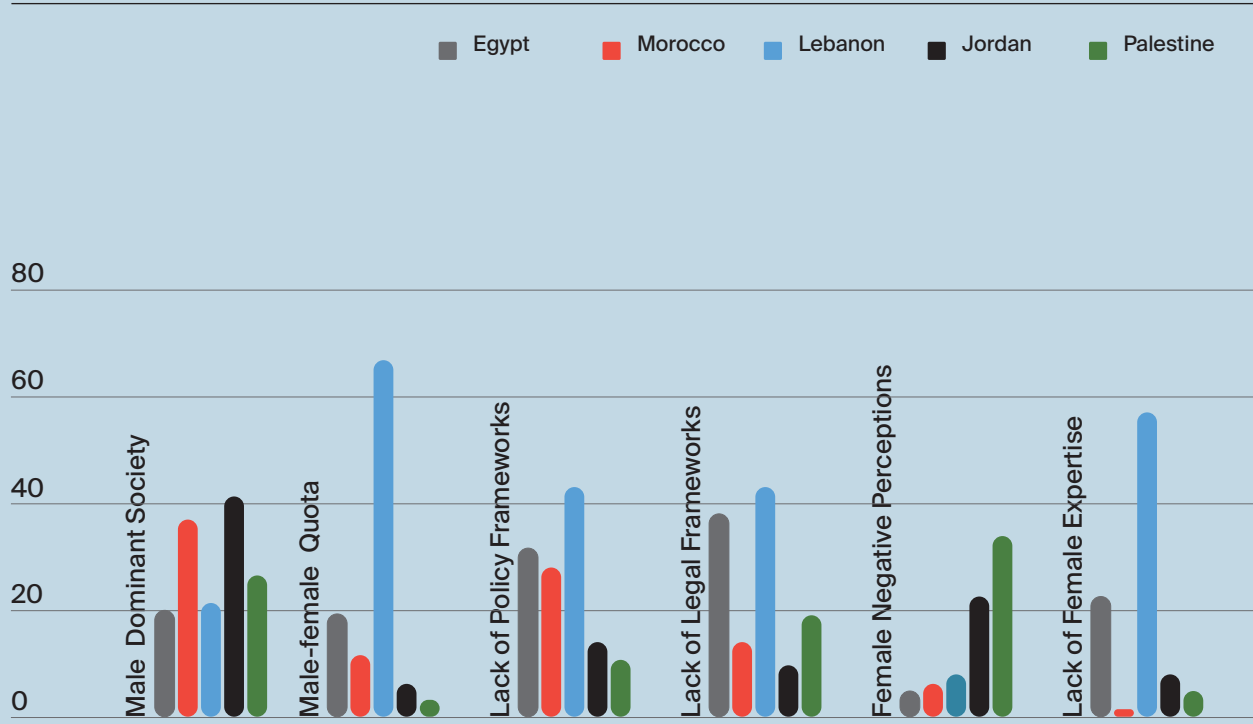
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World Bank. 2013. *Opening Doors: Gender Equality and Development in the Middle East and North Africa*. Washington DC: World Bank. doi:10.1596/978-0-8213-9763-3. License: Creative Commons Attribution CC BY 3.0

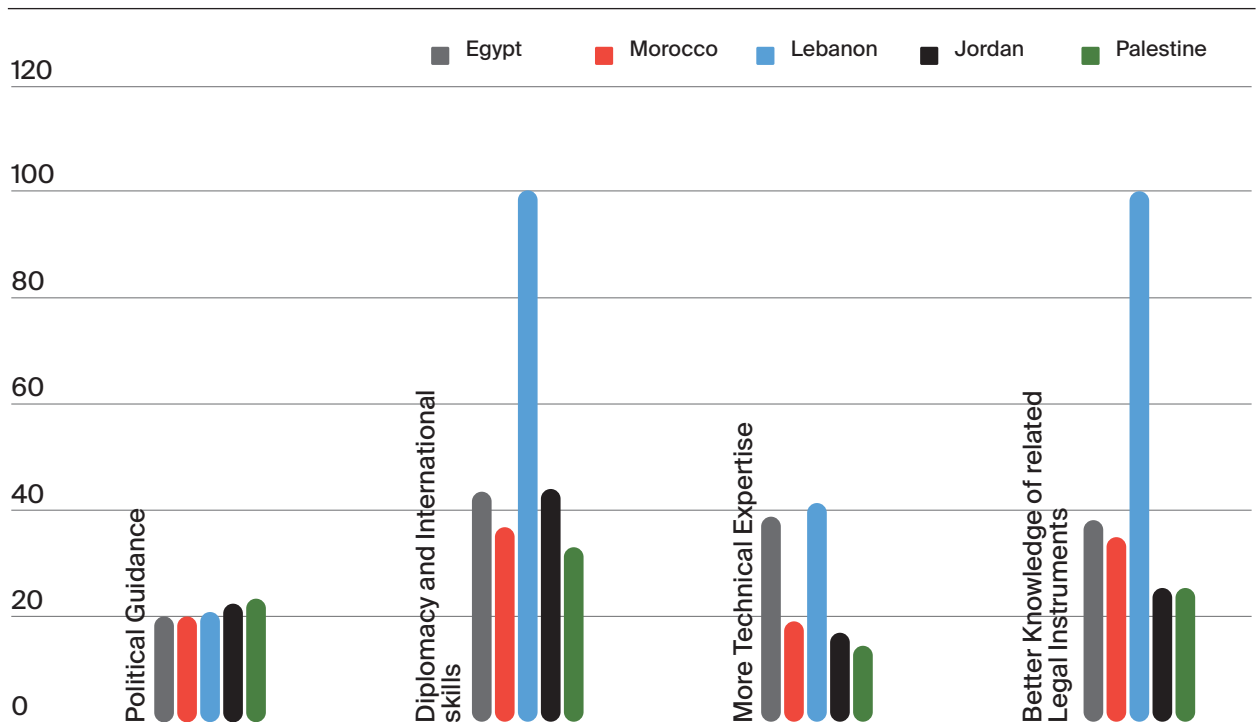
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ESCWA United Nations Economic and Social Commission for Western Asia (2017) *Women's political representation in the Arab Region E/ESCWA/ECW/2017/3 & 2017, Policy Brief Role of Women in Peacebuilding Processes, E/ESCWA/ECW/2017/TECHNICAL PAPER.5*

Factors that affect the male-female ratio at the workplace



Type of skills needed to attain water diplomacy positions



decision makers. The choice of these factors was based on an understanding of the cultural barriers in the countries of the first mapping exercise, and the expertise and experience of those who lead the mapping in those countries.

For the benefit of comparison, all country results have been compiled in the figure below, providing a snapshot of the situation across countries, always according to the responses of the female respondents.

Although the issue of a male dominant society is considered the main factor in three of the countries, the lack of policy and legal frameworks was also considered an important decisive factor in the promotion of men to senior positions. The variations, steep in some cases, across countries in the percentages concerning the male-female quota, the lack of female expertise and the female negative perceptions are interesting.

B Skills needed to better lead in water diplomacy positions

At the time of the first mapping exercise in 2017, the traditional skills needed to meet the more specialised forms of diplomacy of the 21st century were included. This should not be understood as a bias by the authors towards the importance of the emerging non-traditional skills, but rather as an attempt to tackle the common arguments against

women having the necessary qualifications for being water diplomats. Therefore, the fields of international law (including water), negotiations, political science, diplomacy, and international relations were included as potential skills needed to better lead in water diplomacy positions.

The chosen skills score high in the literature, and when studying the skills that are needed for general management, decision-making and diplomacy positions. In addition, knowledge about the formulation of water negotiating teams, and the experience with the ministerial water decision-making mechanisms has emphasised the skills in the questionnaire and in the graphs below as essential.

The graph below shows the comparison across the five countries on the female respondents' perceptions on the skills needed to have a more comprehensive profile that responds to the elements of a water diplomat.

The figure highlights that all the respondents in the five countries recognise the need to develop their diplomatic and international skills, as well as the need to acquire better knowledge of related legal instruments. This is understandable given that the technical competency of the women of the sample group in each country is already established.

It is evident that across the five countries, with variations, there is a need and opportunity to improve the comprehensive set of skills needed in

a water diplomat, through tailored capacity building and mentorship programmes. The development of the necessary skills will increase the pool of female expertise, provide more opportunities, raise confidence, and have an impact, even if slow and gradual, on the perceptions of women leaders and decision makers, both to men and women.

What are the qualities of a good water diplomat?

The respective chapter of the Comparative Study delved into the skills and qualities of a good water diplomat, thus providing further context on the preparation of an integrated capacity building and mentorship programme.

Through a literature review but also through direct reflections and valuable advice provided by hands-on diplomats and transboundary water cooperation experts, several skills and attributes of a good (water) diplomat have been identified. These have been grouped under different categories, including:

- Core skills and general background, which concern specific academic skills and abilities that enable diplomats to manage professional relationships during negotiations;
- Communication skills and personal development, with strong communication skills being one of the priorities of a good diplomat as it helps better understand the counterpart(s) and to build trust and respect; and
- Women's specific skills, which concern those specific characteristics that women typically bring to the negotiation table and are valuable elements for consensus building.

Female (water) diplomats or mediators bring to the negotiation table skills that can be valuable for consensus building. For example, women have the natural ability to build trust, to combine analytical and constructive thinking, have better listening and negotiation skills, and show a greater understanding of sensitive issues. At the same time, additional skills that would benefit female water diplomats, include the ability to go outside one's comfort zone, to identify innovative ways to support changes in cultural settings and to be open to digitisation and advanced technological tools. A female water diplomat who is informed and puts forward an argument based on technical knowledge, will make all the stereotypes that men have about women disappear.

Taking the cross-country analysis towards action

The overall comparative section of the Study highlighted similarities and differences across the

five countries in terms of the challenges women water experts face to be promoted to decision-making positions in water diplomacy and (transboundary) water cooperation settings.

Addressing the factors inhibiting female participation in decision-making positions is not an easy task. However, with a forward-looking and change-induced outlook, carefully designed and meticulously delivered capacity building and mentorship programmes could tangibly support women in attaining more decision-making positions and being more confident leaders in water diplomacy positions.

III What next? Steps taken after launching the Comparative Study

Outreach and checking of findings in other regional contexts

The results were launched in a report in 2021 and were shared in various fora. In addition, there were events at which an interactive mentimeter exercise was conducted with the participants, to solicit their input and reflections on the role of women in water diplomacy, and the challenges they faced. Another objective was to explore the similarities and differences among the regions.

The results of the three events are compared below and used to give a descriptive, not statistical, or evidence-based analysis. The results will help tailor the approach and program to empower women in the informal network in the MENA, through exchange of expertise and mentorship.

- Within the framework of the UPWCD-IWRA 2021 Master Classes Workshop on Water Cooperation & Diplomacy, the workshop on Gender and Water Diplomacy, in July 2021, was attended by almost 300 attendees, representing 89 countries. In the skills workshop following the presentation, input from the participants was solicited.
- As part of an open elective course on Transboundary waters and hydro-diplomacy for Masters' students at *Indian Institute of Technology Guwahati (IITG)*, a presentation was delivered on hydrodiplomacy and gender

Figure 3 shows that there is consensus on the different crucial roles that women bring to the decision-making table, including strategic perspectives, facilitation, empathetic, multidimensional and solution-oriented approach.

How do you see the role of women in water diplomacy?



How do you see the role of women in water diplomacy?



How do you see the role of women in water diplomacy?

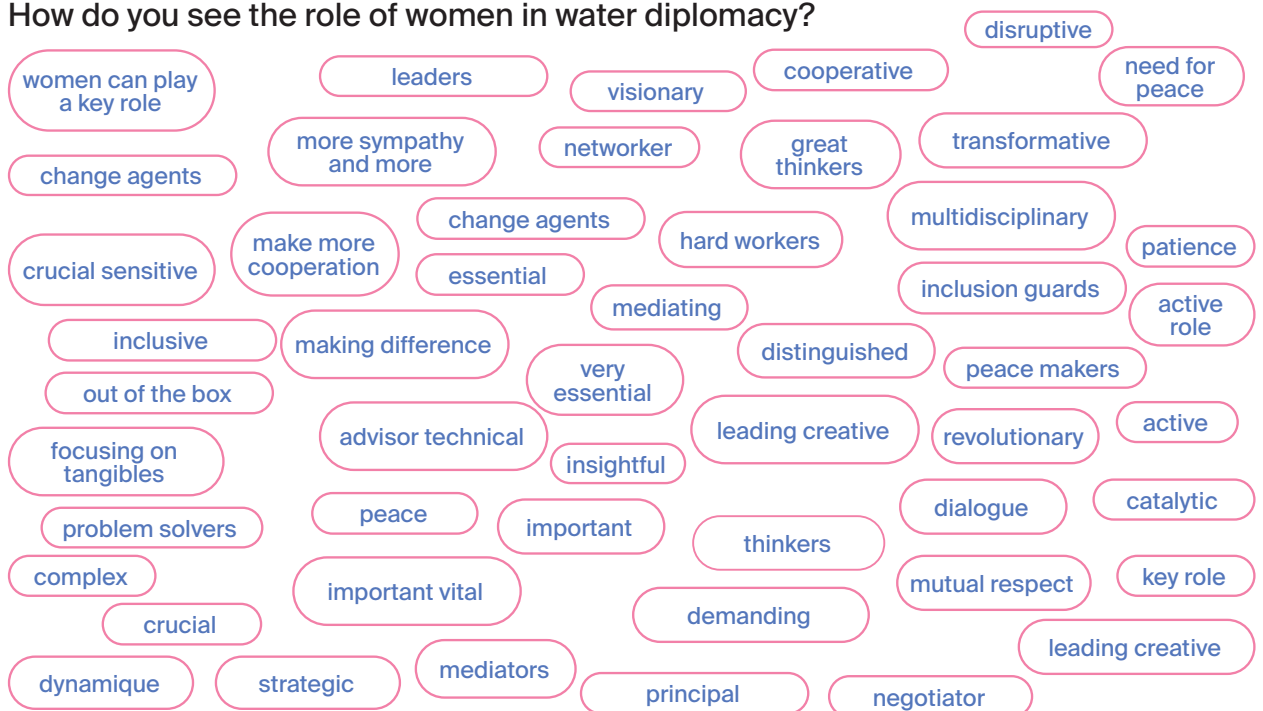
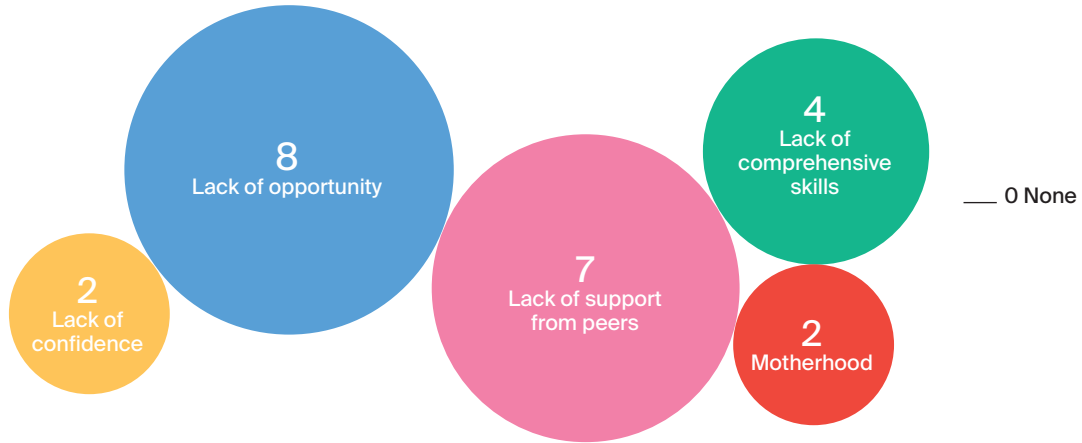
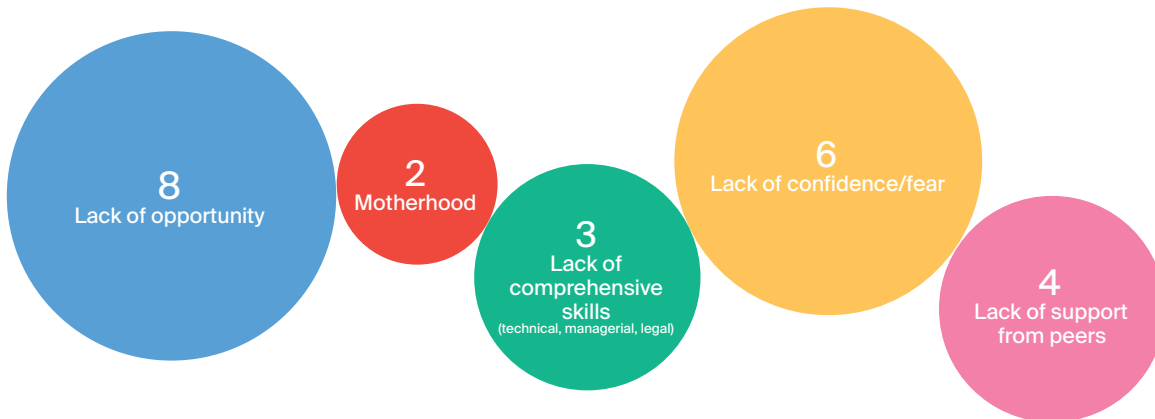


Figure 4 shows that regardless of the geographic region, the career status (early or mid), gender, or discipline, the lack of opportunity and support remain the main bottlenecks that discourage women from accepting more decision-making positions in water diplomacy settings.

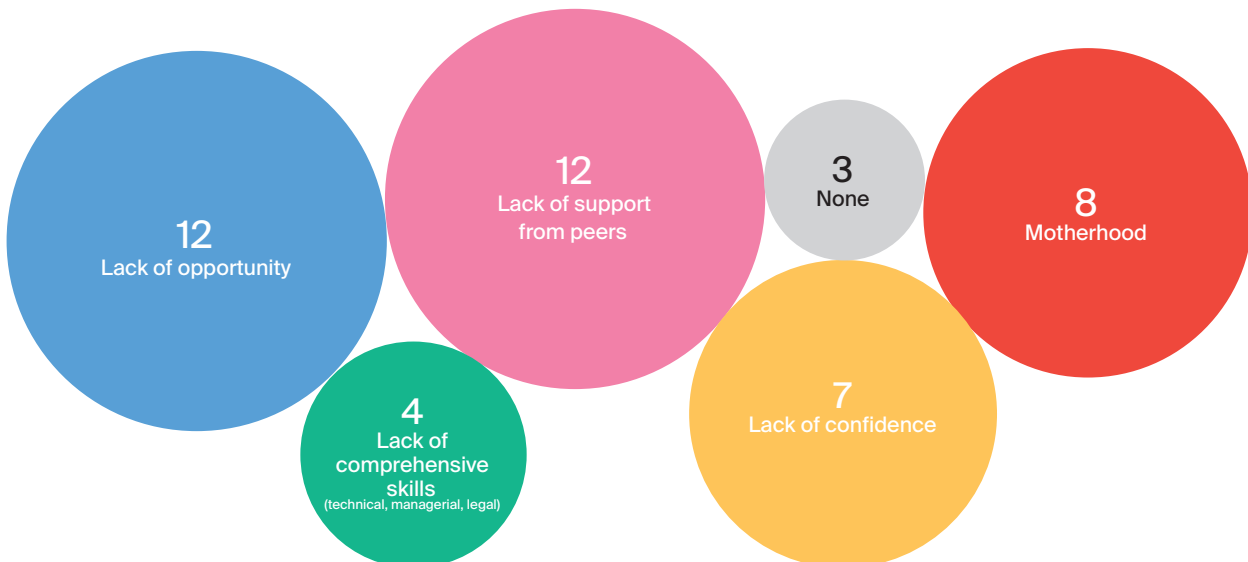
What holds you/women back from accepting decision making positions?



What holds you back from accepting decision making positions?



What holds you/women back from accepting decision making positions?



in September 2021. Among 21 students, 11 were females, and the overall students were from Sociology, English, Economics, Political Science, Geography, and History backgrounds.

- An online side event was held on “Women, Water and Peace,” in the framework of 9th Meeting of the Parties to the UNECE Water Convention.

Capacity building through a targeted experiential learning programme

Experiential learning, one of the most effective ways to promote professional integration and develop leadership skills, was used in 2021 to enhance the collective capacity of women and to support the engagement of women water leaders in decision-making and peacebuilding processes.

Through experiential learning in the form of the 90-Minute series, members of the informal network of women in their personal and professional development, learned through storytelling from key experts, and used this knowledge to reflect on their own career trajectory and the related challenges. The five sessions of the 90-Minute series seek to provide a platform for exchanging, experience sharing and interacting between participants and influential diplomats/experts who have held or hold official positions, with a rich expertise in preventive diplomacy, water diplomacy, international law, international relations, and negotiations.

Each session had a specific theme which included:

- “What it means to be women leaders in the water sector?”
- “The Art of Diplomacy and International Relations”
- “Conflict Resolution and Mediation: Theory and Practice”
- “The involvement of Women in Foreign Policy and Peacebuilding”
- “Communication Skills and Emotional Intelligence in Negotiations”

Throughout the experiential learning sessions, the participants were provided with a safe and neutral environment to engage, pose questions, investigate, experiment, and get practical advice directly applicable to their careers. The participants had the opportunity to exchange and learn from practitioners, and familiarise themselves with tools,

know-how, and expertise for the development

of leadership skills. This process would not have been possible without the experts who volunteered their time and shared personal insights based on hands-on experience.

IV Conclusion

For water diplomacy to bear fruits, the inclusive participation of all stakeholders and the role of women in peacebuilding, conflict management, and sustaining security. Further emphasis on encouraging and capacitating women to take up such positions has strong merits that have yet to be explored. Importantly, we need to have legal and institutional frameworks in place that support and ensure the positive participation of women at all levels. By leveraging more actors, including women and youth, into inclusive water diplomacy processes, we can foster a cadre of water champions.

So how do we go forth, while operating within the MENA predominantly male societies where gender equality remains out of reach? Much effort is still needed for female leadership to emerge within the water sector, particularly at the transboundary level. The key competencies needed are well-grounded knowledge of legal instruments, along with diplomatic and negotiation skills. Responding to this context, our initiative has a twofold objective: on the one hand to provide further evidence of the gaps and, and on the other hand, to map out a capacity building action plan for the informal opportunities through targeted technical work across the MENA region. We are initiating a network of MENA Women in Water Diplomacy which aspires to provide the platform for targeted interventions and practical exchanges.

Furthermore, working closely with partners and utilising the GWP platform, the Initiative aspires to share the experiences and lessons learnt beyond the MENA region, as well as to prompt action and ignite a spill-over effect on empowering leadership in the women, water, and peace interface.

Further information on the Initiative, along with material and the Comparative Study, are available at:

<https://www.genevawaterhub.org/news/initiative-empowering-women-water-diplomacy-mena-region-launching-comparative-study-egypt> &

<https://www.gwp.org/en/GWP-Mediterranean/WE-ACT/News-List-Page/2021/women-in-water-diplomacy/>



Chapter 9

Local Conflicts in the Sahel: a Call for the Development of Resolution Mechanisms based on Water Cooperation

The first UN World Water Conference in 1977 in Mar del Plata and the Water Decade of the 1980s led international institutions to show increased interest in the water sector, as the numerous international forums and official commitments in development aid demonstrate. The water resource challenge in Africa was initially addressed through the provision of organizational issues around drinking water supply and sanitation (WSS). Since the 2000s, however, the integrated resource management (IWRM) approach has been promoted to orchestrate both sectoral uses (domestic uses and productive water) and the sustainability of the resource.

In the Sahelian region of West Africa, the development agenda is undermined by a security crisis that has been deteriorating since the early 2010s. This crisis is rooted in the suffering of local populations whose basic needs are not being met, which has led to a breakdown in trust not only with States but also between communities. The people of the Sahel face a security threat both physically, through armed violence, and economically, through the lack of professional prospects for a growing part of the population. In the arid context of the Sahel, water is necessary for domestic use, but it is also key to accessing natural resources. It is essential for the survival of populations, the viability of their socio-economic activities, and their resilience to the impacts of climate change.

An analysis of the issue from the perspective of the role of water in society, especially in terms of conflict and peace, shows that several key elements deserve close attention.

- In the past, the Liptako-Gourma region, located in central Sahel between Burkina Faso, Mali, and Niger, economic relations between the various social and occupational groups were based on different, albeit complementary, production systems. The relations between these two groups have oscillated between peace and conflict.
- Justifying the current multidimensional conflict affecting the region through the social and occupational, the intra or inter-community factor, or the increase of armed violence which stems from the presence and intervention of “jihadist” groups, would be reductive.
- The effectiveness of responses is often hindered by the high number of players and, in some cases, their unclear roles. Constraints such as lack of financial resources which complexifies action in the field but also lack of coordination with the legal system—which does not rely sufficiently on the work of local actors are what limit the scope of local conflict management.

This paper is the product of a cross-sectional analysis of local conflict conducted by the Citizen’s Observatory on Governance and Security (OCGS) as part of a research project on local conflicts in the Liptako region. The purpose of the analysis is to provide background information, map the conflicts focusing on both structural and economic causes, and present traditional conflict management mechanisms as part of a necessary approach to promoting water as a factor for peace.

I Background

The Sahel region has been subject to increasing instability since armed insurgencies broke out in northern Mali in 2012 and Nigeria in 2009. Armed conflict has since extended to neighbouring states in the Sahelian strip and threatens to spread to the states in the Gulf of Guinea. A fragmented set of non-state armed groups are now exploiting the weak state presence to their advantage, with local tensions crystallizing over access to and control of natural resources, including water, pastures, and arable land.

The people of the Sahel face security threats both physically, through armed violence, and economically, through the lack of professional prospects for a growing part of the population. Locals have no choice but to leave the countryside, migrate illegally, or take up arms either to earn a living or to protect their integrity and property against attacks. To address economic and physical insecurity, regional states and their partners built a response around a security and development nexus, as promoted by the G5 Sahel and the Lake Chad Basin Commission (LCBC). Although it is acknowledged that there is no military solution to the situation, the implementation of this nexus is dominated by security.

Furthermore, issues such as the water challenge and water security do not seem to be the central concern for the Sahel's local populations despite water being an essential resource for their survival, socio-economic activities, and adaptation to climate change. In the dry Sahel region, water is key to accessing natural resources. The disruption of the water cycle which is impacted by climate change and development projects upsets the balance between the different social and occupational groups that make up the Sahelian population. Therefore, water security does not depend on resolving technical issues, but on the development of political consultation frameworks to manage disputes.

In the Liptako-Gourma region, located on the border between Burkina Faso, Mali, and Niger, violence has become prevalent due to the intensification of local conflicts which have severe consequences both in social and humanitarian terms. Since 1 January 2019, at least 400 people have died in communal violence in Burkina Faso and Mali.

In addition to the loss of lives, these conflicts have displaced thousands of people. For example, on 30 September 2019, Mali recorded 187,139 displaced people, mostly in the Mopti region. Burkina Faso reported 486,000 internally displaced people on 8 October 2019.

The escalation of violence at the local level stems from structural factors of vulnerability and triggering events which have been gradually building in the region since the 2012 Malian political and security crisis. Liptako-Gourma is a transhumance area (the practice of moving livestock from one grazing ground to another in a seasonal cycle) impacted by the decrease in grazing spaces due to the exploitation of agricultural land and the depletion of water and fodder resources. Growing insecurity not only increases the displacement and vulnerability of populations, but also contributes to fuelling conflicts between social and occupational groups. In addition to the tension over access to natural resources, violence arises from power struggles, ambitions around political and social change, and disputes between the state and certain communities.

In Mali, a peace process was initiated among the parties to the conflict acting in the north of the country where the security crisis began. The Agreement for Peace and Reconciliation, which emerged from the Algiers Process, was signed in 2015 between the Malian state and the Coordination of the Azawad Movement, which rallies the separatist political groups that initiated the armed insurrection in 2012. It provides a roadmap for greater regional autonomy in the management of resources and development policies. Despite this, armed violence has continued and intensified in Mali as well as in neighbouring countries. There are two reasons for this. First, national authorities and their partners excluded the so-called "jihadist" armed groups from the political dialogue, deeming their political claims non-negotiable. These groups have become firmly rooted in society and have developed strategies for destabilization. Second, the Algiers Peace Agreement did not consider the local conflict dynamics which have been exacerbated by the spread of arms in the region.

Thus, incidents in the Liptako-Gourma region, which were sporadic between 2012 (when one incident was recorded) and 2016 (when six incidents were recorded) have increased exponentially: 19 incidents were recorded in 2017, 89 incidents in 2018, and another 89 between 1 January and 15 September 2019, a fivefold increase compared to 2017¹.

1

Information processed from the data available on the ACLED website.

Figure 1: Incidents and casualties in Burkina Faso, Mali, and Niger between 1 January 2012 and 15 September 2019

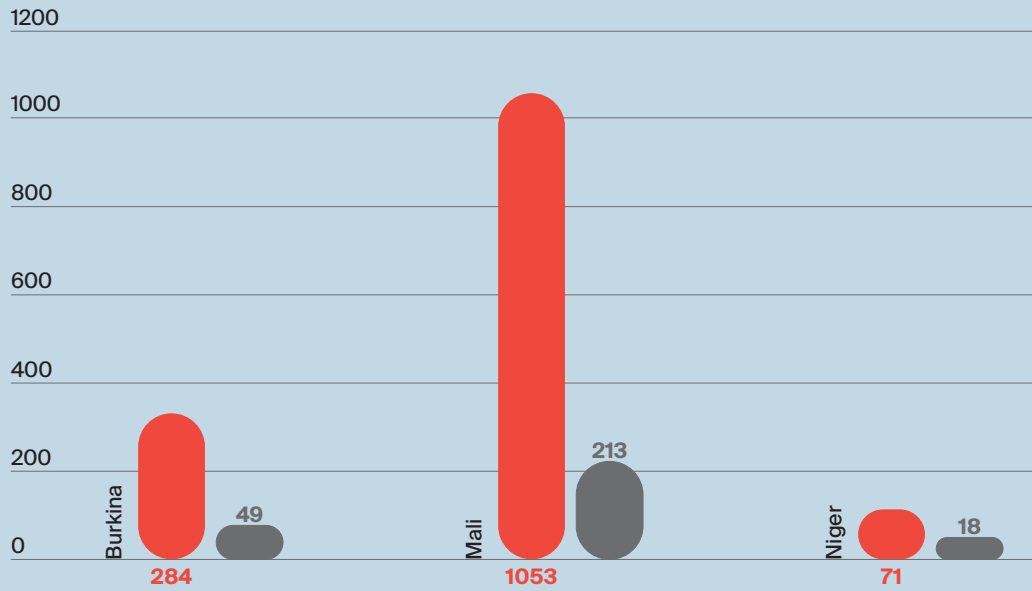


Figure 2: Number of incidents and victims in Liptako-Gourma (between 1 January 2012 and 15 September 2019)

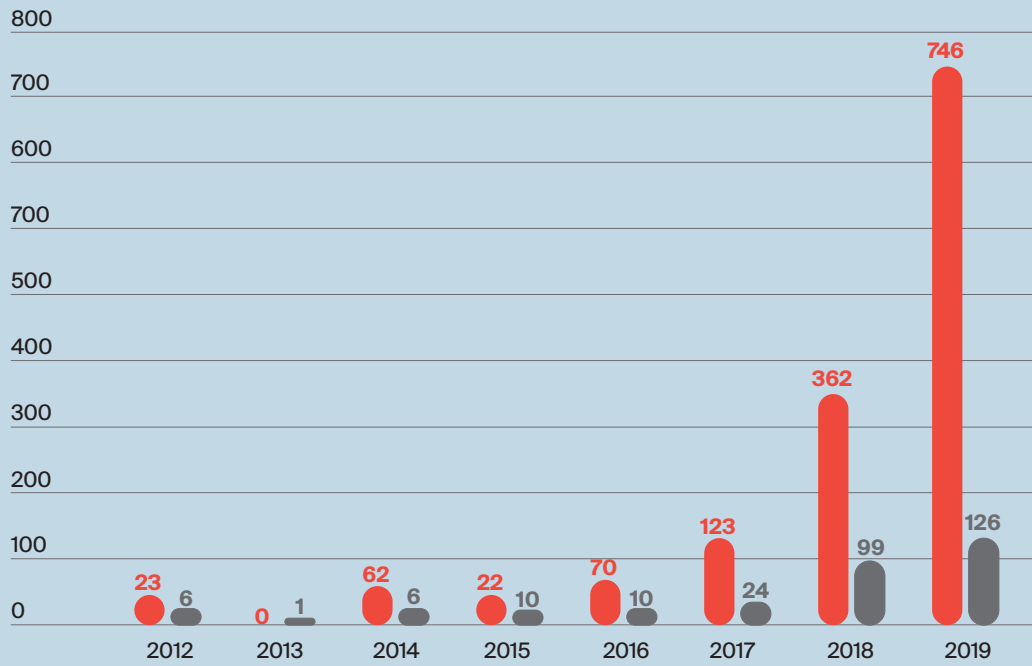


Figure 3: Local conflict-related violence in Mali (2012-2019)



Figure 4: Local conflict-related violence in Mali (2012-2019)

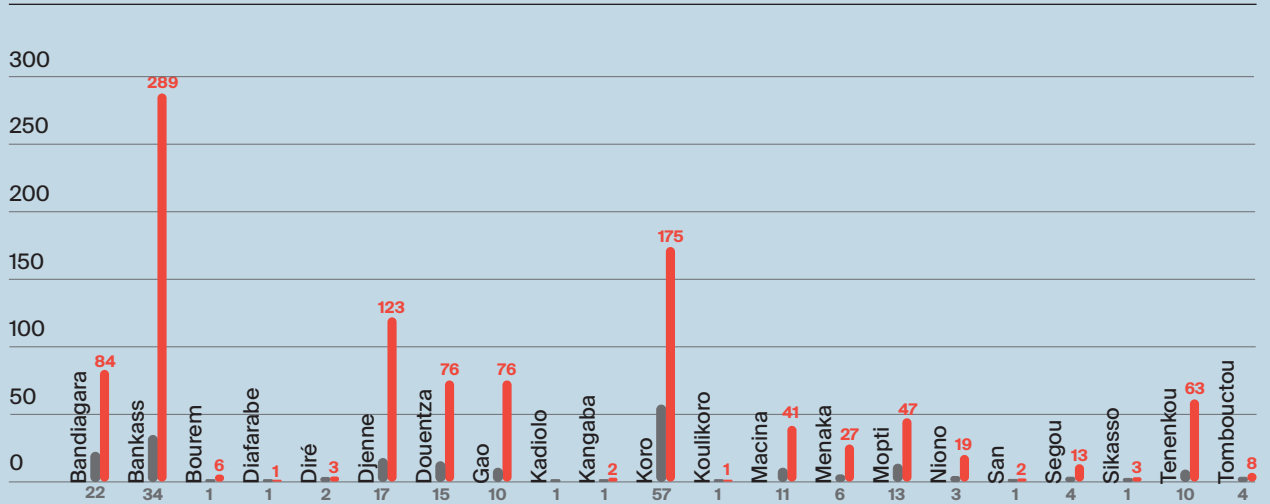
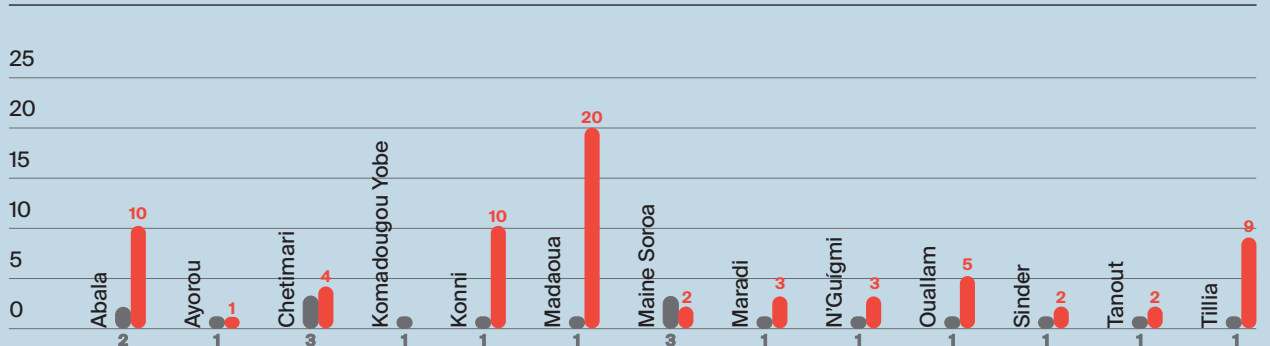


Figure 5: Local conflict-related violence in Niger (2012-2019)



Caption

Source

● Number of victims ● Number of incidents

Information processed from the data available on the ACLED website.

Over 1,408 civilians were killed in 280 incidents between January 2012 and 15 September 2019. In Mali, the situation has deteriorated since 2015. In 2016, 19 incidents were recorded, resulting in 44 civilian deaths. In 2018, 343 people were killed in 89 incidents. In Burkina Faso, local clashes have significantly increased in the past three years. Between 2012 and 2016, the country experienced more than 11 incidents related to local conflicts resulting in more than 27 casualties.

Sahelian countries have been very exposed to the effects of climate change. Recurring periods of severe drought (1972-1973, 1983-1984) had devastating consequences on several regions of Liptako-Gourma. The fact that the food crises which occurred between 1970 and 2005 (1970-1980, 2000-2001, 2002-2003 and 2004-2005) were associated with periods of rainfall deficit, floods, or locust attacks, confirms that production is highly vulnerable to climate hazards.

Although repeated droughts lead to new production strategies,² they also play an important role in the socio-economic disruption in the Sahelian strip, which in turn impacts Liptako-Gourma. The densely populated and generally heavily irrigated Mopti region, for example, has experienced a decline in agricultural production through the collapse of cereal production, which is the staple diet, as well as the depletion of fishing stocks, and the decimation of livestock. The average annual growth in total cereal production fell from 6.2% in the early 1980s to 4.5% towards the end of the decade. Fish production dropped from 87,000 tons per year in the 1970s and 1980s to 37,000 tons per year in the early 1980s.³ The World Food Programme's analysis of Mali's ten-year cereal balance sheet shows a nexus between needs fulfilment and climate hazards. In terms of local rice, the areas studied experienced gross production shortages every third year between 2006 and 2007 and 2015-2016.⁴ In terms of coarse grain production, gross shortages occur every second year.

The deterioration of climatic conditions has considerably reduced the area of arable land in the central Niger Delta, which has decreased from 30,000 km² in 1960 to 5,000 km² in 1980. The increasingly

lengthy and harsh dry seasons have greatly reduced the grazing areas. The outcome is twofold: it forces herders to migrate to new areas regularly, causing damage to agricultural lands; and it drives farmers to increase their production by expanding arable land and developing their activities in areas originally used for livestock grazing. The extensive nature of farming has thus led to the progressive depletion of pastoral areas. According to a study conducted by the United Nations Food and Agriculture Organisation and the National Directorate of Agriculture in Mali in 1999, cultivated areas in Mali are increasing at a rate of 4.5% per year. As a result, tensions between herders and farmers are increasing and sometimes turning into inter-ethnic conflicts.

On top of climatic hazards, the whole of the Sahel, including the Liptako-Gourma region, is facing a rapidly growing population, with two dimensions to consider: the balance of births and deaths, on the one hand, and migration, on the other. Data from the Population Division of the United Nations Department of Economic and Social Affairs indicate that population growth rates in the region are among the highest in the world, at 2.87% for Burkina Faso, 2.99% for Mali, and 3.82% for Niger in 2019.

In all three countries, the fertility rate exceeds the West African average, which was estimated at 5.18 children per woman in 2019, with 5.23 children per woman in Burkina Faso, 5.92 children per woman in Mali, and 6.95 children per woman in Niger. It must be said, however, that the fertility rate has been declining steadily since the early 1980s, when it was 7.17 in Burkina Faso, 7.15 in Mali, and 7.9 in Niger. The demography of these countries, and the African continent, is projected to stabilize by 2100. This, however, will depend on how much states improve the population's standard of living through basic services, especially access to water and sanitation, health, and education, and by developing forms of inclusive economy.

This demographic challenge leads to increased needs, mainly in terms of cereal crops, the production of which the population depends upon to be self-sufficient. The resulting high demand, coupled with extensive farming, requires increased availability of

2

Farmers facing droughts: Adaptation of practices and environmental impacts: A study of the Lemboulas watershed example (Bas-Quercy, Midi-Pyrénées) - Bénédicte Veyrac-Ben Ahmed.

3

Structural dimensions of liberalization for agriculture and rural development / RuralStruc Mali Programme - Phase I - July 2007

4

Source. Assessment of food markets in the regions of Mopti, Timbuktu, Gao and Kidal. Opportunities and Relevance for Scaling Up Cash Transfers - WFP - April 2017
<https://documents.wfp.org/stellent/groups/public/documents/ena/wfp292228.pdf>

new land for production, which often leads to tensions between farmers and herders. Demographic pressures lead to soil erosion, the reduction of grazing areas, and increased competition for arable land. Amid this, water resource management is a strategic part of ensuring food security and the resilience of local economies.

Within a broader set of sector-specific initiatives, one key to adapting to climate change is the development of water infrastructure systems and ecosystem management practices which promote soil regeneration and water retention capacities. For these development actions to contribute to human security, however, it is important to restore a balance between the various social and occupational groups through an examination of conflict dynamics and the implementation of efficient conflict management mechanisms.

II Overview of conflicts in the region

The conflict dynamics in the region are multidimensional. Conflicts are becoming increasingly complex and are being exploited by both militias and violent extremist groups. Local power struggles, identity-based withdrawal, easy access to weapons, and competition over natural resources – the access to which is determined by water which is limited in the area – have become sources of division and violence within and between communities.

In recent years, the inaccessibility of resources, especially water, has been added to an already existing shortage in central Sahel. This has fuelled tensions between herders and farmers over the access to, and management of, water points. The situation has contributed to exacerbating historical conflicts at both social and occupational levels and plunged the region into a cycle of community violence, which has been accompanied by the generalization of self-defence groups and armed militias who claim their role is to protect communities. These factions attack villages and use violence with no distinction between combatants, women, and children.

The local conflicts affecting the area involve either intra or inter-community struggles, or disputes between the population and administrative or traditional authorities. In addition to this, there are clashes between social and occupational groups such as farmers vs. herders, farmers vs. farmers, farmers vs. growers, hunters vs. forest guards, etc. The analysis identifies several types of conflict, but

this paper will examine mainly competition over resources, including water.

In most areas of northern Mali, Niger, and central Gourma (Mali-Burkina-Niger), where water scarcity is chronic, rivalries over the access to and the control of pasture and water points are endemic. Each actor tries to exert control, sometimes by excluding others. Because of the scarcity of resources and their exclusive management in many localities, competition results in increasingly violent clashes that often involve non-state armed groups.

The combined effects of climatic hazards, high population growth, and the resulting pressure on land have had lasting effects on local production systems. The progressive depletion of resources and the greed of different social and occupational groups have disrupted the prior balance and cooperation that once prevailed in the main production systems (agriculture, livestock, and fisheries).

Certain pastoralist communities who used to be nomadic have begun to settle down to start extensive farming and livestock rearing, thus increasing the pressure on land already weakened by uncertain climate conditions. Conversely, some agrarian communities have diversified their income through livestock farming. Tensions and conflicts are also widespread among different groups of farmers and herders. These disputes are not direct confrontations between two organized entities but are part of the more general competition for resources among different social and occupational groups. The latter tend to evolve with time and vary according to the adaptation strategies their members use to secure economic niches that depend on access to natural resources and on markets to channel their products.

In this context, “jihadists,” often referred to as “terrorists,” are not solely responsible for the increase in local violence. It is true that “jihadists” exploit divisions within rival communities, such as the conflict between Fulani and Daoussahak on the border between Mali and Niger, which is partly about access to natural resources and cattle rustling. In this conflict, the EIGS, and before it the MUJAO, have exploited the frustrations of the Fulani by offering them protection against the Daoussahak. The latter are accused of exploiting the support that the MSA (whose majority is Daoussahak) allegedly receives from the Malian, Nigerien, and French armed forces in the fight against terrorism.

Taking sides in the conflict allows terrorist groups to recruit more easily and extend their influence by worsening an already complex

conflictual situation which they turn to their advantage. However, this analysis shows that the stance these groups take in local conflicts varies from one context to another.

In some areas, the “jihadists” act as referees between social and occupational groups. Armed groups sometimes adopt a non-interference position, but their presence deters the parties from conflict and is sufficient to quell tensions momentarily. The presence and activity of “jihadists” thus freezes tensions which makes them less intense. Data reveals that the position of violent extremist groups in relation to local conflicts varies. Several parameters seem to influence their attitude, including their strength and means, their objectives (desire to establish themselves, to increase their recruitment base, etc.), their sociological make-up (their members), and that of the society in the area where the conflict is taking place.

III

The different traditional mechanisms for water conflict management

Access to water is a recurrent issue in the region and is one of the factors that contributes to the exacerbation of violence in a context where competition for water is rife. Both common and exceptional conflicts around water access have always been managed by traditional conflict management mechanisms based on customary expertise. In the past, conflicts were mostly resolved through community mechanisms, including traditional authorities. These mechanisms are now dysfunctional due to the deconstruction of the social order (amplified by the crisis since 2012).

These conflict management mechanisms have always been used to solve conflicts between groups or disputes between individuals. They revolve mainly around resource managers whose jurisdiction differs from that of traditional chiefs in certain areas. In the inland delta of the Niger River in Mali, for example, the Jowro or “masters of the pastures” from the Fulani Riambé nobility, have been responsible for establishing the rules and managing the conflicts that arise from the exploitation of pastoral, farming, and fishery since the time of the theocratic Dina Empire.

According to reports collected in the Tahoua region of Niger, when an incident occurs, it is the local leaders who decide whether it can escalate into a conflict. *“In the case of ethnic conflicts, the communities call upon the elders, leaders, and marabouts, and the stakeholders are summoned. After the parties involved have given their versions of events, they are asked to apologize and forgive each other through conciliation.”*⁵ Nevertheless, local actors do not resort to arbitration. *“The word of the religious leaders is respected by everyone because it is perceived as wise and based on religious texts. When the local authorities deem the resolution is beyond their competence, they turn to the administrative authorities (governors, prefects, economic operators, etc.) and not to the state justice system.”*⁶

Traditional actors such as village, canton, tribal, and group chiefs use conciliation, arbitration, reparation, and sanction mechanisms (except in the case of Niger where sanctions are not applied) and face certain challenges in implementing these mechanisms, such as when parties refuse to abide by the decisions taken. As a result, these actors have limited coercive power.

A second category of traditional actors manages more specific issues related to the use of resources available to the people. These traditional actors are Chief of the land (responsible for managing land conflicts), Chief of the *bourgoutières* or Djowro in Mali (responsible for managing grazing land), or Water Master (in charge of managing water points such as rivers). When local communities call on these actors to manage disputes, they use customary arbitration, sanctions, and reparation. However, the mechanisms they use also have limitations, including when one or more of the parties refuse to respect the decisions taken.

Traditional actors also include the Master of fetishes. In many communities, resorting to fetishes is used only as a last resort because the solutions are marked by mysticism and the answers are often radical. However, resorting to fetishes is also limited, as it applies only to those who believe in them.

Finally, traditional actors also include caste men (“griots”, blacksmiths) who are presented as the guardians of tradition and contribute to facilitating dialogue between the parties in conflict by playing the role of conciliators and facilitators. One of their functions in society is to maintain peace and social cohesion. They reconcile individuals in the context

of dispute resolution but also arbitrate conflicts between communities.

In Niger, the State has entrusted certain responsibilities to local traditional chiefs who are not part of groups such as farmers' organizations. The primary responsibility for disputes lies with the customary chiefs, who manage conflicts through conciliation. If the situation goes beyond the village level, it is dealt with by the canton chief. The village chief summons the two opposing parties to discuss the issue, and if they reach an agreement, the village chief draws up a conciliation report which is signed by the conflicting parties and sent to the canton chief.

At the local level, cadis and imams also play an important role in dispute management among communities. These religious actors rely on religious texts (Muslim law, jurisprudence) to conciliate and arbitrate the parties in conflict. However, their scope of action is limited to believers and those who agree to comply. They can only act when called upon and cannot arbitrate murder cases, for example.

Among the religious actors, it is also important to underline the role played by priests and pastors who rely on religious texts for conciliation and arbitration. In northern Burkina Faso, these actors are sometimes targeted by so-called jihadist armed groups who suspect them of cooperating with the State as intelligence agents, which challenges their ability to manage disputes. This targeting concerns church officials as much as Muslim religious leaders, who are victims of targeted killings by extremist groups for the same reasons.

In addition, religious leaders, such as marabouts, cadis, and certain animist religious leaders of certain localities, can also be solicited in chieftaincy, proximity, inter-community, or intra-community conflicts. In Niger, for example, according to a sociologist met by OCGS, "a distinction should be made between, on the one hand, customary justice in which the cadi plays an important role for the Muslim community and, on the other, Azna/Arna customary justice in which a sacred stone (Tunguma) or even a genie (Uwal Gona) plays an equally major role." However, it is often difficult to draw the line between modern law and traditional law on the one side, and traditional law and Muslim law on the other.

IV Further reflection: How water can be a factor that promotes peace?

The desire to dominate water access and the rivalries stemming from it are undoubtedly major challenges for the region, but water can also be a factor for peace and security. To this end, government public policies must contribute to the implementation of hybrid methods that aim to combine traditional and modern conflict management mechanisms through legal pluralism. The thinking behind such an approach is based on a better understanding of local dynamics.

The Malian conflict of 2012 led public administration institutions to withdraw from vast rural areas. The impact of this conflict on neighbouring countries led to a similar dynamic in Burkina Faso and, to a lesser extent, in Niger. Since then, left to their own devices, communities have been struggling for survival on many fronts: in economic terms, with the scarcity of natural resources aggravated by climatic hazards; in terms of identity, as they are courted by governments and armed groups; and in terms of security, due to the shortcomings of an overwhelmed public force.

It is indeed important to analyse these conflicts in the broader context of the region's social dynamics and security issues. In this respect, attempts to reduce them exclusively to their social and occupational or even intra or inter-community dimension, or to the exacerbation of armed violence linked to the presence and intervention of "jihadist" groups, do not contribute to an exhaustive understanding of the existing multidimensional conflict.

The resurgence of violence due to local conflicts in Liptako-Gourma is certainly a threat but it is also an opportunity. By engaging in political dialogue with communities, recognizing their fundamental role in the construction of society, and involving them in the necessary debate on governance models, states can transform conflict dynamics into a vehicle for systemic change, address the structural challenges they face, coordinate their policies towards cross-border and nomadic communities, reach out to the center and the suburbs, and, more fundamentally, renegotiate the social pact/contract that serves as the basis for peace and national cohesion.



Chapter 10

The Water and Peace Sentinel – seeking calmer waters

Introduction.

Media as a node in the Observatory for Water and Peace

In this chapter, we review the contribution of the media as a “node” in the Observatory for Water and Peace over the past year. We make some preliminary observations regarding emerging trends that are observable in the media, which may pave the way for further research.

“The Water Diplomat” (TWD)¹, launched in August 2019, is a free monthly news and intelligence resource produced by OOSKANews, in partnership with the Geneva Water Hub (GWH). The publication, distributed monthly by email, is part of a media platform developed to raise awareness on current affairs related to hydro-political challenges and emerging solutions to those challenges. In its coverage, TWD focuses on the intersects between water, peace, conflict, and diplomacy. As a node within GWH’s Global Observatory for Water and Peace (GOWP), “The Water Diplomat” contributes to its analytical and knowledge sharing capabilities. TWD seeks to improve public understanding of the prevention and reduction of conflicts related to water and to increase the visibility of hydro-political issues and hydro-diplomatic engagement.

¹

For a free subscription to “The Water Diplomat” or for other inquiries, email info@waterdiplomat.org

Media as a societal voice on water and peace

Public awareness and engagement with policy thought leaders and actors are crucial to the achievement of Blue Peace objectives. The media, particularly the news media, is central to calling global attention to water issues, stimulating public debate, and contributing to constructive dialogues. The media can act as a knowledge broker, by building bridges facilitating new information flows, shifting narratives towards collaboration, and increasing awareness of our co-dependency on shared resources rather than viewing water conflicts as a zero-sum game.² For instance, society's understanding of the network of stakeholders involved in conflicts is largely informed by the information that the mass media provides.³ Of course, there are risks involved in covering conflicts: media coverage can fall prey to "selective articulation" by covering some conflicts and not others, some stakeholders and not others, or some drivers of conflict and not others.⁴ These risks can be mitigated through a range of measures such as plurality, ensuring a multidisciplinary approach, providing a voice for a diversity of stakeholders, and by devoting more time to the coverage of scientific findings.⁵

The provision of information through the media plays a key role in public participation in debates, as well in the engagement of decision makers.⁶ In the field of water governance, the media is an important vehicle to discuss the rules of access to and control over water that lie at the core of water security. It is through the media that public awareness is raised on topics such as the role of water in armed conflict, the application of international water law, or the procedures of international water cooperation. Each TWD news item sheds light on the complexities of

water governance. This is an important role, as there is still relatively little coverage of natural resource conflicts in the mainstream media, although this does appear to be increasing over time.

"The Water Diplomat" as a new voice on water and peace

As will be described in more detail below, "The Water Diplomat" has recently stepped into this space, as a "node" within the Global Observatory for Water and Peace. It covers the highly dynamic and changing world of water diplomacy, that sometimes has surprising and unexpected results. For example, although 2020 was expected to be a year when public discourse would increasingly focus on water and climate change, emerging issues such as the COVID-19 pandemic changed the direction of the debate to highlight the importance of personal, domestic, and public hygiene. Between the launch of the monthly publication in August 2019 and July 2020, "The Water Diplomat" published 558 news articles related to hydro-diplomacy. Box 1 below provides links to each issue in its entirety.

"The Water Diplomat," a partnership between the Geneva Water Hub and OOSKAnews, produces, gathers, and curates current news stories relating to the themes addressed in the GHPWP's 2017 "A Matter of Survival" report, which outlines the panel's recommendations for promoting and using water as a driver for peace. The publication's structure mirrors the chapter subdivisions of the panel's report and provides relevant news and intelligence, contributing to the awareness of current affairs related to hydro-political challenges around the world and engaging readers

² Nicol, A. and Nair, N (2021): *Beyond Politics: Knowledge Bridge in the Indus Basin*. In Dewedar, R (2021): *Water conflicts and cooperation: a media handbook*. Oxfordshire: CABI

³ Reyes Garcia, V., Andrés-Conéjero, O., Fernández-Llamazares, A., Diaz-Reviriego, I and Molina, J. (2019): *A road to conflict: stakeholders and social network analysis of the media portrayals of a social environmental conflict in Bolivia*. In: *Society & Natural Resources* 32 (4): 452-472.

⁴ Hamelink, C (2011): *Media and conflict: escalating evil*. Taylor and Francis, pg 32

⁵ Fantiti, E (2021): *The Minister, the Prophet and God's Eye: Scientists voices in media reporting in*. In Dewedar, R (2021): *Water conflicts and cooperation: a media handbook*. Oxfordshire: CABI, Op Cit.

⁶ See for instance Boyle (2009): *Media use and protest: the role of mainstream and alternative media use in predicting traditional and protest participation*. In: *Communication Quarterly* (2009): vol 57 issue 1 pgs. 1 -17



in the nexus between water, peace, cooperation, and diplomacy. “The Water Diplomat” is also part of the Blue Peace Movement.

An analysis of the first twelve monthly issues of “The Water Diplomat” (through July 2020) was conducted, contributing to the understanding of the prevalence of reporting relating to the chapters of “A Matter of Survival”, as well as country and regional GOWP node reporting of “topic areas”:

Reviewing the first year of “The Water Diplomat”:

Over the course of the first 26 months, “The Water Diplomat” created and produced 919 news articles covering different aspects of current affairs related to the topic of water and peace.⁷ The TWD spectrum consists of original written news stories, monitoring of local media to find relevant hydro-political news in a given (monthly) news cycle; “opinion pieces” authored by guest experts at the invitation of “The Water Diplomat”; original multimedia content including video and audio interviews with senior participants in the world of hydro-diplomacy. While producing this news,

TWD has developed – and is further developing – a keyword tagging function which enables researchers and interested readers to dig deeper into a particular topic and search for related articles. As the database of past articles grows, the introduction of a systematic and rigorously applied keyword tagging function will facilitate research into specific topics. The current version of the database enables frequency counts for combinations of keywords, but still requires a degree of manual extraction to yield insights.

A more rigorous and systematic tagging of keywords is foreseen for the next phase of TWD and will be developed in the course of 2021. The current analysis of TWD reporting is drawn from manual analysis, which should be treated as a provisional set of insights, providing pointers on trends that could be used for further research once the database contains a larger set of articles which have been systematically tagged according to an agreed methodology.

As mentioned above, the 26 months of news articles are organized in a format reflecting the chapters of the panel’s report, with the articles grouped into thematic sections described in more detail below.

⁷

Excluding short articles under the heading ‘local news’

Figure 1: TWD News Coverage Analysis, August 2019 to September 2021



The *first observation* to be made is that to a large extent, water news over the past year corresponded with the main thematic areas and subsections of the 2017 report and recommendations of the Global Observatory for Water and Peace. This encouraging, observation indicates that the structure of the original report captured many of the topics that are also covered by the media as key developments that practitioners are engaging with in the water sector. There is a degree of subjectivity involved in the decision to label a story as one which covers “international water law and cooperation” or “new mechanisms in hydro-diplomacy” when an incoming media report is categorized since these categories are not mutually exclusive. Nevertheless, each article was successfully categorized within the categories and sub-categories of the panel’s report which confirms the overall logic and structure that “The Water Diplomat” has adopted as an organizing framework for its reporting. At a more disaggregated level, however, some subcategories are not sufficiently well defined to allow for clear and unambiguous categorization. For instance, the category on “intersectoral issues” appears to have become a “catch-all” which captures many issues at once and therefore has little analytic power in retrospect.

The *second observation* to be made is that, as the sunburst diagram above shows, although the main thematic sections captured current events in the domain of water and peace well, at the level of the subsections it became clear that some topics appear to receive more coverage than others. In the diagram, the size of each section corresponds to the proportion of articles allocated to that section in the year under review. Thus, for example, the sunburst diagram shows that within the realm of international water law and cooperation for instance, which is a crucial thematic area as far as normative guidance on the use of shared water resources is concerned, a lot of media attention was paid to water diplomacy in the form of interstate relations (cooperation) in comparison to the subject matter of water law itself.

Similarly, in covering water in armed conflict, more articles covered the use of force than other related topics such as humanitarian law, the victims of force, or institutional mechanisms for peace and security. In the section on financial innovation, more coverage was given to financial mechanisms than to the institutional partnerships behind such mechanisms.

This leads to a *third observation*, namely that news media reports, by their nature, tend to cover “events” more frequently than the more complex mechanisms

in the same subject area that could potentially offer solutions in that realm. Thus, in the section on water in armed conflict, 56% of articles were devoted to the use of force while only 5% covered peace and security mechanisms. As can be seen in figure 2 below, 98 articles covered the use of force in armed conflict and situations of violence, 24 articles covered international law in armed conflicts and other situations of violence, 9 articles covered mechanisms related to peace and security, and 43 articles covered victims of armed conflict and other situations of violence.

Similarly, the section on international water law and transboundary cooperation, 81% of articles covered issues of interstate relations while only 19% covered issues related to water law. Figure 3 below shows that 38 articles covered topics related to international water law while 98 articles were devoted to interstate relations, such as coverage of transboundary basin organizations, their design and mandate, transboundary cooperation on groundwater, and tensions surrounding the development of infrastructure or water utilisation.

In the section on finance for water cooperation, 83% of articles covered the news of financial innovations whereas 17% covered the institutional mechanisms behind the financial innovations. Figure 4 below shows that within the section on financial innovation for water cooperation, 116 articles covered themes related to financial innovation whereas 23 articles covered topics related to institutional aspects of financing.

These trends match the observations made by Fantini⁸ about media coverage of the Nile River basin. Fantini reviewed 980 articles and found that journalists tended to quote politicians and government officials more than experts or scientists, i.e., media coverage tends to focus more on water-related decision making than on underlying technical, legal, and institutional issues or trends.

A *fourth observation* that can be made is that there appears to be a *geography of water and peace*: each region has its own set of issues which receive media coverage. Figure 5 below shows the frequency with which a particular theme was covered by TWD in a particular part of the world. These figures are based on the first twelve issues of “The Water Diplomat”. If we examine the section on water in situations of armed conflict, it appears that media coverage from Western Asia and the Middle East predominates, followed by Sub-Saharan Africa and Europe (the latter being mostly coverage of Crimea/ Ukraine). In the realm of international water law

Figure 2: Breakdown of articles within the topic of water in situations of armed conflict
Water in armed conflict: article frequency per sub category

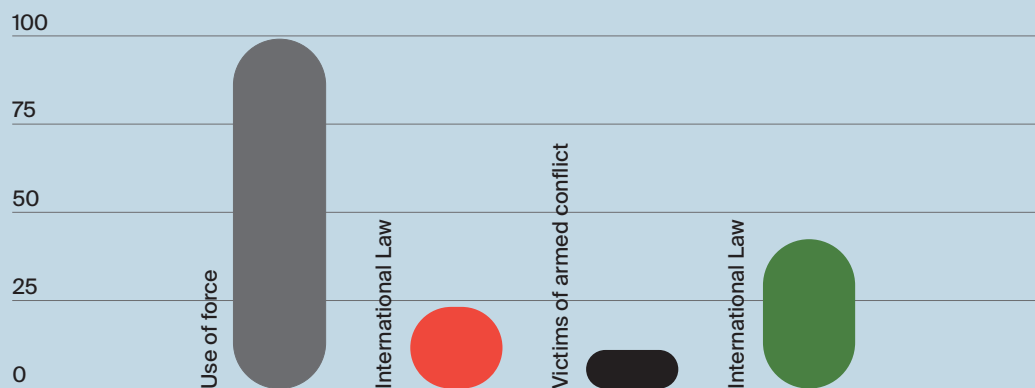


Figure 3: Breakdown of articles within the topic of international water law and cooperation
International water law and transboundary cooperation: article frequency per subcategory

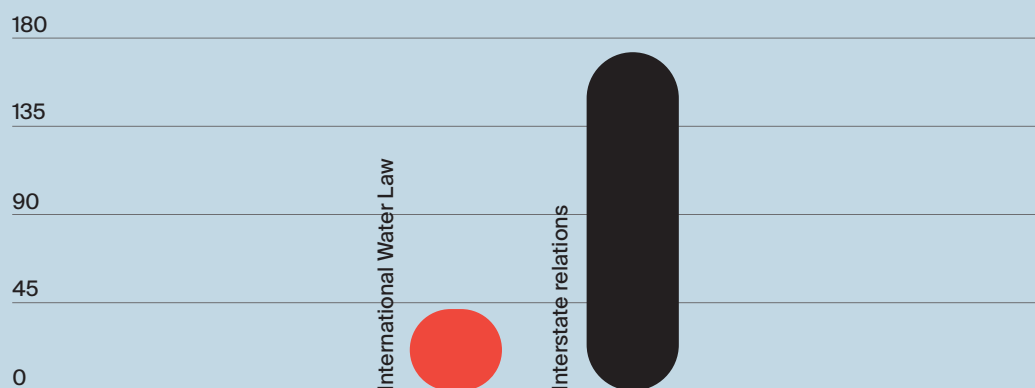


Figure 4: Breakdown of articles within the topic of financial innovation
Financial innovation for water cooperation: article frequency per subcategory

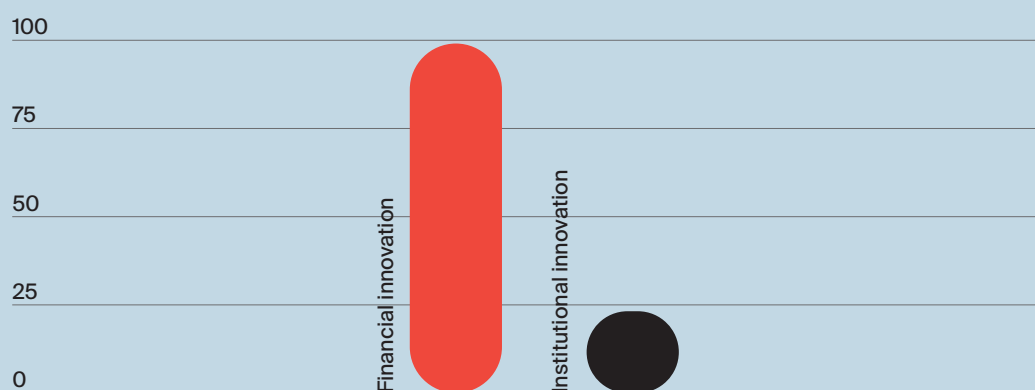
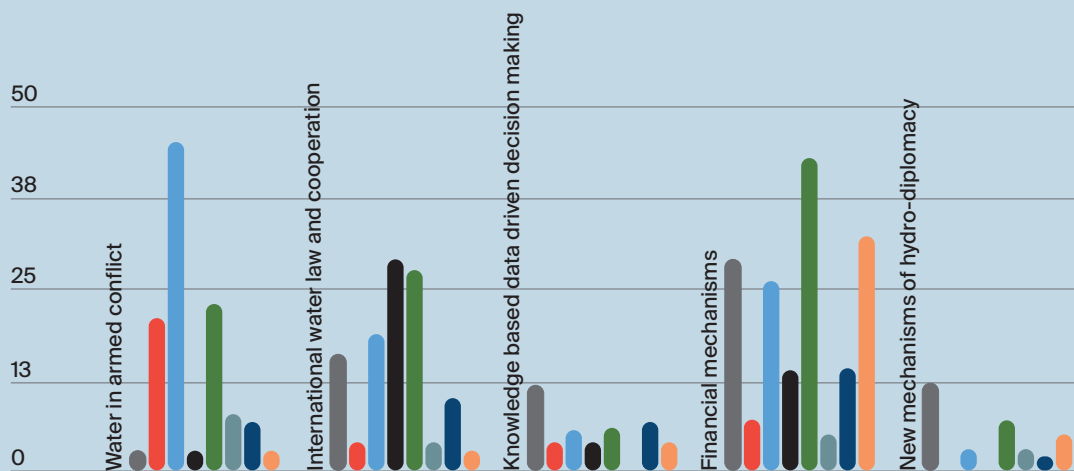
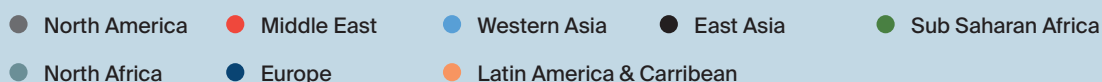


Figure 5: Regional occurrence of media coverage per theme



Legend



and cooperation, it is the East Asian region which predominates, followed by Sub-Saharan Africa and Europe. The coverage of stories on knowledge-based, data-driven decision making was more evenly distributed across regions, although North America and Europe received more coverage than the other regions. Sub-Saharan Africa had the highest number of articles covering peoples' diplomacy and intersectoral water management, followed by Latin America and the Caribbean, and North America. Similarly, Sub-Saharan Africa dominated the coverage of financial mechanisms, followed by Western Asia and Europe.

Finally, in the coverage of new initiatives in hydro-diplomacy, North American stories featured prominently, followed by Sub-Saharan Africa and Latin America and the Caribbean. It seems therefore that regional thematic coverage is sufficiently pronounced to conclude that there appears to be a geography of water and peace, i.e., that each region has a particular set of issues which tend to predominate in the public discourse. In this context, it should be noted that many of the stories covered in "The Water Diplomat" during 2020-21 were not regionally specific but related to global trends in access to drinking water and sanitation, water quality and pollution, water demand and scarcity,

the protection and restoration of water-related ecosystems and biodiversity, as well as institutional initiatives, thematic conferences, and others.

Within this set of articles, the dominant thematic area was knowledge-based, data-driven decision making, followed by peoples' diplomacy and intersectoral decision making and water in situations of armed conflict. Articles addressing the dominant theme tended to cover the release of global reports on the state of a particular topic such as the prevalence of water-related disasters or global investments in the sanitation sector. In the field of peoples' diplomacy and intersectoral management, coverage was given to the initiatives of international non-governmental organisations, the private sector, or to the public's reaction to prominent events occurring in the water sector.

Given these observations on the quantitative aspects of media coverage of topics related to water and peace, we will now turn our attention to more qualitative aspects.

Water in Armed Conflict and Other Situations of Violence

In the first two years of its existence, TWD published more than 200 news articles directly related to water in situations of armed conflict and other situations of violence. These articles focused on water insecurity in armed conflict, and violations of international humanitarian law in particular. Attention was paid to the situation of vulnerable communities in conflict zones such as Crimea, Ethiopia, Iraq, Libya, northern Nigeria, Somalia, northern Syria, and Yemen. In some cases, such as in Libya and Syria, water cut-offs were used as a pressure tactic during armed assaults, directly affecting civilian populations. In other cases, such as Ethiopia and Yemen, the coverage focused on the effects of internal displacement which exposed local populations to communicable diseases. The above-mentioned cases accounted for a large proportion of the coverage. In line with the objectives of the Global Observatory for Water and Peace, TWD contributed news coverage on the monitoring and awareness raising of water insecurity in armed conflicts and other situations of violence. In these settings, the flow of information is often severely restricted, and it can be necessary to resort to unconventional data sources to document the risks faced by local populations. In this information gap in times of conflict, humanitarian organisations such as non-governmental refugee and emergency response organisations, alongside specialized UN organisations, provide an essential monitoring service of the water security situation for the most vulnerable populations. From the reporting it is evident that armed conflicts exacerbate vulnerability to already existing water-related risks, the effects of climate change, and water pollution caused by the degradation of infrastructure.

International Water Law and Transboundary Cooperation

Over the past two years, TWD covered some 250 news articles on international water law and transboundary cooperation, including cooperation and disputes, river basin agreements, the evolution of international water conventions and data sharing agreements. This contributed to helping water diplomats stay informed about

the current issues under discussion by parties to river basin agreements, including, in terms of existing tensions, attention to certain seemingly intractable conflicts (detailing different diplomatic stances) and adverse tendencies in adherence to international agreements such as departure from water quality agreements or a lack of information provision in emergency situations. In terms of highlighting options for cooperation, TWD provided evidence of progress in transboundary cooperation through improved monitoring, information and data sharing, capacity building, and the initiation of joint river restoration projects and action plans for river conservation. A relatively small number of cases were responsible for a large proportion of the coverage: the negotiations between Egypt, Ethiopia and Sudan over the construction of the Grand Ethiopian Renaissance Dam (GERD), the requests for data sharing and dam building plans amongst the countries riparian to the Mekong River, the dispute between India and Pakistan over the Indus Waters Treaty, and discussions between the United States and Mexico on the sharing of the Rio Grande

Knowledge-Based, Data-Driven Decision Making

Over the past two years, 231 news articles contributed to highlighting current practices in data and research-supported analysis in the water sector, as well as offering insights into innovative approaches and tools for improved comprehension and resolution of water challenges. Areas that were covered include a wide range of topics where data plays a role such as updates on progress on Sustainable Development Goal 6 on water and sanitation, different thematic areas related to the protection and restoration of water-related ecosystems (and associated challenges to sustainability such as freshwater biodiversity loss), topics related to the instability of the water cycle such as data on flooding, drought, climate adaptation, data related to Water, Sanitation and Hygiene (including waterborne diseases and Covid-19 related management issues), plastic pollution and other issues related to water pollution, and solutions such as the development of unconventional water resources and techniques for water diplomacy. Although in general it is true to say that increased data availability can support water diplomacy, not all water data is *directly* relevant for water diplomacy. Increased data availability on Covid-19, progress on access to water and sanitation services, water

pollution, water scarcity, unconventional water sources, the effects of climate change, the decline in biodiversity, among others are less directly relevant than topics such as studies into water management in long-term humanitarian water crises, targeted course material on water cooperation, the impact of climate change on conflict, etc. In the future, it may be useful to conduct analysis on which media reports on water data are considered most useful for water diplomats.

Peoples' Diplomacy and Intersectoral Water Management

At least 576 news articles covered non-state developments and innovative decision-making processes, including reports on multi-stakeholder dialogue platforms, with attention paid to intersectoral innovations, and best practices. In covering people's diplomacy, TWD covered a range of non-state initiatives in the water sector aimed at enhancing water security through different approaches and tools. It served to amplify the work of different stakeholder groups with their unique contributions to water security. Thus, for instance, the publication covered the work of conservation organisations in clarifying the role of water-related ecosystems in buffering against the effects of climate change, it called attention to the role of young talent in contributing to new solutions for water management, as well as reported on new youth platforms such as the youth for water and climate platform. Similarly, TWD called attention to a broad range of initiatives in the private sector to assess water risks and highlighted citizen attitudes and public responses to water infrastructure and provision in different country contexts across the world. The articles covered a wide range of stakeholder initiatives, which by definition originate in society in response to perceived water security risks and cover a wide range of topics. As is the case with stories on knowledge-based decision making, this section on intersectoral water management is a "catch-all" with a high number of general or global stories, in comparison with other sections of TWD.

Finance for Water Cooperation

There were 75 news articles on financing of water, directly and indirectly as an instrument of peace. These stories reported on new (both traditional and innovative) financing for water from public investors, private investors, bilateral and multilateral donors, as well as cooperative financial facilities for water. News coverage of water financing has also drawn attention to corporate water risk and responsibility. The finance for water cooperation section systematically documented water-related climate adaptation measures of the Green Climate Fund and Global Environmental Facility, it covered the investment requirements necessary to respond to the Covid-19 pandemic, it covered the activities of all multilateral banks on new projects in the field of WASH, IWRM, irrigated agriculture, and water treatment, as well as highlighted water aspects of investments risks in the corporate sector. Overall, the investments covered in this section were related to measures to increase water security at the national or subnational level. There was less evidence of investments that follow the recommendations of the High-Level Panel on Water and Peace to promote transboundary cooperation, the strengthening of transboundary water management institutions, and the preparation of transboundary infrastructure projects among others.

New Mechanisms of Hydro-diplomacy

Some 55 news articles reported on new developments in hydro-diplomacy that went beyond traditional mechanisms, raising the profile of possible new frontiers for cooperation. When such initiatives and mechanisms emerge, it is not always clear whether they will become integrated into mainstream water governance practices. Nevertheless, TWD noted a range of interesting mechanisms which could over the longer term influence the way in which water security is achieved. These include research tools such as hotspot descriptions of the mechanisms at work in areas facing the highest levels of water insecurity and technological developments that improve the monitoring of water availability and distribution in the transboundary water sharing context. They also include the international recognition of the role played by the Water, Peace, and Security partnership

through the 2020 Luxembourg Peace Prize. A highly significant development is the increased understanding of the role of water in Nationally Determined Contributions (NDC's) as agreed to under the Paris Climate Agreement and the willingness of states to take measures to enhance climate resilience with particular attention to the role of water.

Conclusions

This chapter reviewed the contribution of the media as a “node” in the Global Observatory for Water and Peace during the first twenty-four months of the publication of “The Water Diplomat”. It was noted that society’s understanding of water and peace is largely informed by information provided through the mainstream media, and that the media can act as a knowledge broker, increasing awareness of our co-dependency on shared resources. The *first observation* we made was that water news over the past year has corresponded to the main thematic areas and subsections of the report and recommendations of the Global High-Level Panel on Water and Peace. This confirms the structure of the 2017 report, indicating that its logic captured many of the topics that are also covered by voices in the media. The *second observation* is that although the overall framework is appropriate, there has been a predominance of coverage of certain kinds of stories over others at the subsection level. This is most pronounced for the sections on the use of force and other armed conflict situations, international water law and cooperation, and financial innovation. Leading on from this observation, we make a *third observation*, that the news media reports cover “events” more frequently

than complex mechanisms in the same section that have potential solutions in that realm. The use of force, for example, has received more coverage than humanitarian law, the state of play of interstate relations has received more coverage than the international water law under dispute, and financial innovations received more coverage than related institutional changes within the financial sector. This does not mean that these more in-depth stories of water diplomacy do not exist, merely that further research will be needed to unearth their contents and to bring them to the attention of news-consumers. The *fourth observation* is that the media trends appear to show a geography of water and peace: media coverage from the Middle East and Sub-Saharan Africa predominates in stories on the use of force in armed conflict, media coverage from East Asia and Sub-Saharan Africa predominates in stories on international water law and cooperation, and Sub Saharan Africa had the highest number of articles covering both peoples’ diplomacy and financial innovation. A *fifth observation* is that for both the sections on armed conflict and international water law, a relatively limited number of cases accounted for a large proportion of the coverage. Finally, the sections on knowledge-based, data-driven decision making and peoples’ diplomacy and intersectoral water management are both broad categories which permit the placement of many articles on a wide range of topics. Several of these stories have a less-direct relevance to water diplomacy. Both improved data and stakeholder initiatives are important to enhancing water security. At the moment, the diversity of emerging material appears less easy to “categorise”. Nevertheless, there appears to be significant convergence of coverage around the risks of biodiversity decline, climate change, pollution, and the disruption of the water cycle.



In Memory of David Duncan, Ooskanews Founder, and active advocate for water issues



Concluding Thoughts

The value of this collection of unedited pieces stems from the very diverse perspectives taken to advance peace through water. The contributions covered a very wide variety of topics and make their points in entirely different ways. Like light reflected off the surface of a choppy lake at night, the raw thoughts, policies, and reflections are distinct and unique but remain part of the same effort.

The contributions coalesce around the promotion of international norms and innovation, and the will to accept responsibility for human-made decisions. As the current secretariat of the Global Observatory for Water and Peace, we believe that this form of networked multilateralism is the only progressive means to chart and follow the path towards peace. The very first steps in this journey have been taken, and now we all must follow through so that it continues boldly.

You have heard many voices here, but not all voices. Undoubtedly future GOWP reports will include more perspectives and continue to explore

even further-reaching new developments. These points of view can serve to highlight discourse that challenges the conceived wisdom on certain aspects of water and peace. Different themes will encourage a variety of ways to communicate: from more hydro-political evaluations to cutting-edge earth observation and satellite imagery analysis, or thought-provoking essays and artistic endeavours, whichever forms are most effective to explain the efforts necessary to catalyse peace and justice from water. In so doing, GOWP reports can continue to bring about the alternatives to the status quo that constructive discussions so genuinely need to achieve incremental or transformative change.

The GOWP itself will continue to develop its governance structure along these lines and reach out to all those who subscribe to the same spirit and principles. At the same time, the reports will continue to provide a platform for those who use water as a path to peace and will provide entry points for innovation towards that goal.

Annex 1

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Annex 2

Contributing partners



THE ISSAM FARES INSTITUTE FOR PUBLIC POLICY AND INTERNATIONAL AFFAIRS

Inaugurated in 2006, the Issam Fares Institute for Public Policy and International Affairs (IFI) at the American University of Beirut (AUB) is an independent, research-based, policy-oriented institute. It aims to initiate and develop policy-relevant research in and about the Arab world. The Institute aims at bridging the gap between academia and policymaking by conducting high quality research on the complex issues and challenges faced by Lebanese and Arab societies within shifting international and global contexts, by generating evidence-based policy recommendations and solutions for Lebanon and the Arab world, and by creating an intellectual space for an interdisciplinary exchange of ideas among researchers, scholars, civil society actors, media, and policy makers.

CLIMATE CHANGE AND ENVIRONMENT PROGRAM

The Climate Change and Environment program was launched in 2008 as part of IFI's strategy of utilizing the AUB's significant research and analytical capabilities to inform and guide public policymaking of Lebanon and the Arab world. The program's strategic objective is to generate, and influence policy related to climate change and environmental issues.



CENTER FOR CENTRAL ASIA RESEARCH, CORVINUS UNIVERSITY BUDAPEST CUB - CAR

The Center for Central Asia Research of Corvinus University Budapest was established in 2016 to conduct applied research in support of the development of political and economic relations between Hungary and Central Asian countries, as well as on strategic issues of the region. CUB - CAR research programmes include studies on the adaptation of the experience of Visegrad4 (V4) cooperation to the political and economic conditions of Central Asia, market analysis for leading Hungarian companies, the development of a Central - South Asia trade and energy corridor through Afghanistan, coordination and leadership of the two year programme “Water as a driver of sustainable recovery: economic, institutional and strategic aspects of water resources management in Central Asia”, as well as studies on the institutional heritage of Central Asian countries.



The *Initiative on Empowering Women in Water Diplomacy in the MENA region* grew out of the 2020 collaboration between the Global Water Partnership – Mediterranean (GWP-Med) and the Geneva Water Hub (GWH) concerning the elaboration of a Comparative Study across five Arab countries (Egypt, Jordan, Lebanon, Morocco and Palestine) on identifying a) the similarities and differences in the challenges female water experts face and, b) the capacity building needs in terms of the various skills of a 21st century water diplomat. The Study, prepared by six leading water experts, built upon previous mapping exercise conducted in 2017 in three Levant countries (Lebanon, Jordan, Palestine) and adopted the same methodology of surveying and interviewing targeted women in water-related institutions. Importantly, the analytical work of the two mapping exercises, involving almost 100 women, gave rise to a diverse, dynamic and promising informal network of female water experts across the five MENA countries.



The Geneva Water Hub is a centre of excellence specialised in hydropolitics and hydro-diplomacy. Its objective is to better understand and contribute to the prevention of tensions related to water by taking into account conflicts of uses between public sectors and private sectors, between political entities, and between states. The Geneva Water Hub is the Secretariat of the Global High Level Panel on Water and Peace and engages in the promotion and the implementation of the Panel's recommendations published in September 2017 report “A Matter of Survival”. The Geneva Water Hub aims at developing the hydropolitics agenda to help prevent water-related conflicts at an early stage at intersectoral and transboundary levels, and to promote water as an instrument of peace and cooperation with the support of the Swiss Development Cooperation (SDC) and the University of Geneva.



Global Water Partnership – Mediterranean (GWP-Med) was established in 2002 as the Mediterranean branch of the inter-governmental organisation, Global Water Partnership (GWP).

Aiming for a water-secure Mediterranean, GWP-Med works at the regional, transboundary, national, basin and local level. GWP-Med promotes action and facilitates dialogue on Integrated Water Resources Management (IWRM); provides technical support to policy making; implements demonstration activities; and contributes to skills and knowledge development. Strategic priorities include leveraging the SDG target 6.5 on IWRM, adaptation to climate vulnerability and change, and river basin/transboundary water management. Gender and youth issues, as well as private sector participation in water financing, are also key, cross-cutting issues for GWP-Med.

GWP-Med facilitates a multi-stakeholder platform that brings together almost 100 water institutions and organisations, including 10 major regional networks of different water disciplines. GWP-Med extends its human resources in 7 Mediterranean countries, with the Secretariat based in Athens.



The Organization for American States (OAS) is the world’s oldest regional organization, dating back to 1948. It was established to promote among its member states “an order of peace and justice, to promote their solidarity, to strengthen their collaboration and defend their sovereignty, territorial integrity and their independence”. Today the OAS brings together 35 independent states of the Americas and constitutes the main political, juridical and social government forum in the Western Hemisphere. The OAS, through its General Secretariat, provides technical assistance to its member states in the area of sustainable development, including water resources.”



The Citizen’s Observatory on Governance and Security (OCGS) is a non-political, non-profit organization which was set up in Bamako on 3 February 2020 pursuant to law N° 04 - 038 of 5 August 2004. It is part of the impulse triggered by a new generation of ‘Think Tanks’ working on research, analysis, and action. The OCGS aims to promote good governance and strengthen human safety in Mali and the Sahel. As a national coordination mechanism, the purpose of which is to develop knowledge, monitoring, and advocacy in the field of governance and human safety, it provides local, national, and international actors with analyses on major trends and dynamics.



The International Secretariat for Water (ISW) is a non-governmental organization based in Montreal, Canada. The ISW envisions a world in which water is equitably accessible to all, fostering the empowerment of local actors as well as cooperation between borders, generations, and institutions. ISW’s mission is to initiate and facilitate actions that contribute to positive systemic changes in the framework of water governance from the local to the global level and to the empowerment of actors involved in the water sector.

One of the three main pillars of the ISW strategy is to empower the #WaterGeneration. ISW’s Youth Strategy’s vision is inspired by the idea of the youth movement for water; a movement that involves the large-scale, dynamic and connected mobilization of young people worldwide.



The Pôle Eau Dakar (PED) is an initiative currently being set up within the Ministry of Water and Sanitation of Senegal. It aims to promote hydro-diplomacy and peace in the West African sub-region and beyond; and to make water resources a factor of peace and security in the sub-region. Its vision is to build a reference framework in Africa to catalyze cooperation, inclusive dialogue, governance and the development of knowledge and innovative solutions on water. With the ambition of having a regional anchorage with an international scope, the PED will thus constitute a link between the multiple actors involved in the field of water and peace; this to consolidate the efforts already recognized in terms of cooperation and governance of shared water resources. In addition to being a flagship entity for highlighting the Senegalese and sub-regional experience during the World Water Forum in Dakar 2022, the PED is emerging as an entity for the follow up of the recommendations of the World Water Forum.

— THE WATER — DIPLOMAT

“The Water Diplomat” is a free monthly news and intelligence resource produced by OOSKAnews and Geneva Water Hub. The publication, distributed monthly by email, is part of a media platform developed to engage our world in understanding the intersects among water, peace, conflict and diplomacy. OOSKAnews is the world’s leading publisher of current international water, and water-related news and intelligence. “The Water Diplomat” media platform builds upon the work of the Global High-Level Panel on Water and Peace that produced in 2017 the milestone report “A Matter of Survival”. The media provides news and intelligence pertaining to various themes of the Panel’s report, contributing to global awareness on hydro-political challenges worldwide.

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What you have in your hands is the First Annual Report of the Global Observatory for Water and Peace. The Observatory stems from the recommendation of the 2017 Global High-Level Panel on Water and Peace 'Matter of Survival' report to create 'agency' for all who seek to make of water an instrument of peace.

The Observatory is not a new organization but rather a global network of partners who possess both a strong capacity and the ability to create the safe spaces required to address sensitive topics concerning water and peace. The Geneva Water Hub is the Secretariat and a central node of the network.

More than forty water peacebuilders and diplomats have contributed to the Observatory's first report. Their analysis and opinions are presented in ten chapters addressing various angles to, and topics of the water and peace discourse. The value of this collection of unedited contributions stems from the very diverse perspectives taken to advance a common cause: peace through water. The diversity can be read like a constellation of stars that the Observatory is watching.

We hope that the work of the Global Observatory for Water and Peace, and its first report, will add a layer to the ongoing efforts by key water and peace actors everywhere – and welcome all who share this vision.

**The Geneva Water Hub
Secretariat of the Global Observatory
for Water and Peace**