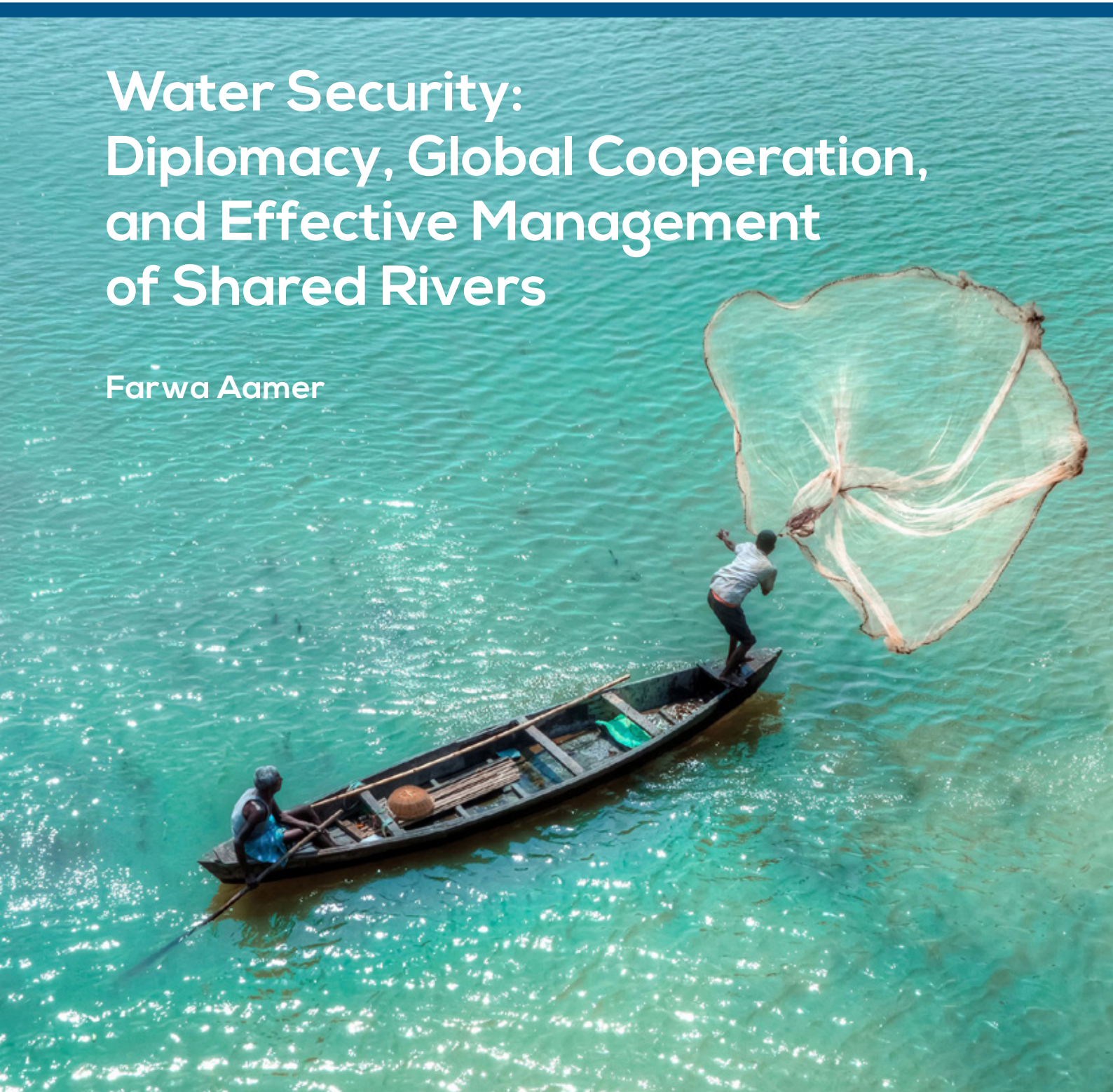


# Water Security: Diplomacy, Global Cooperation, and Effective Management of Shared Rivers

Farwa Aamer



# About Us

## Konrad-Adenauer-Stiftung

Freedom, justice, and solidarity are the basic principles underlying the work of the Konrad-Adenauer-Stiftung (KAS). With 107 offices abroad and projects in over 120 countries, our European and International Cooperation contributes to the promotion of democracy, the rule of law, and an ecologically oriented social market economy. The topics of Energy Security, Climate Change, and Natural Resources Management are of central importance for KAS and its four regional Climate and Energy Programmes in Asia (Konrad-Adenauer-Stiftung—Regional Programme Energy Security and Climate Change in Asia and the Pacific (kas.de), Latin America, Konrad-Adenauer-Stiftung—Regional Programme Energy Security and Climate Change in Latin America—Circular Economy and Public Policies (kas.de), Middle East and North Africa (Konrad-Adenauer-Stiftung — Regional Programme Energy Security and Climate Change in the Middle East and North Africa (kas.de) and Sub-Sahara Africa (Konrad-Adenauer-Stiftung—Regional Programme Energy Security and Climate Change in Sub-Saharan Africa (kas.de). All KAS regional programs provide policy advice on the Water-Security-Development- Governance nexus and include local, national, and international stakeholders in solution-oriented multi-stakeholder dialogues.

Our Climate and Energy Programme in Brussels connects the voices from different regions with European Policy and Decision Makers and helps to bridge voices and to contribute to policy making which includes local practices and experiences. Access to water is developing more and more into a determining element in geopolitics since most of the borders between states develop along rivers and lakes, which separate different water basins. Often, a river considered the natural frontier of communities, takes on symbolic value and determines geopolitical perceptions and rivalries. Rapid population growth, urbanization, climate change, and inefficient water resources management have led to increased water scarcity and limited access to adequate quantities of acceptable quality water for sustaining livelihoods in many parts of the world. Regional cooperation based on strong and democratic regional water institutions for KAS is therefore a prerequisite to build trust, align and mediate diverging interests and jointly manage water across borders and regions.

## The Stimson Center

The Stimson Center promotes international security, shared prosperity & justice through applied research and independent analysis, deep engagement, and policy innovation. For three decades, Stimson has been a leading voice on urgent global issues. Founded in the twilight years of the Cold War, the Stimson Center pioneered practical new steps toward stability and security in an uncertain world. Today, as changes in power and technology usher in a challenging new era, Stimson is at the forefront: Engaging new voices, generating innovative ideas and analysis, and building solutions to promote international security, prosperity, and justice. Stimson's Energy, Water, and Sustainability program has diligently worked over the years to address important and timely policy issues and technical opportunities concerning energy, water, and sustainable development in the Global South from a multidisciplinary perspective. Our work on transboundary river basins identifies pathways toward enhancing water security and optimizing tradeoffs between water, energy, and sustainable development options in the Mekong, Ganges-Brahmaputra, Indus, Aral Sea, and Euphrates-Tigris River basins. We also promote the renewable energy transition by identifying lessons learned from countries that have had breakthrough developments in renewable energy and provide opportunities to share these lessons with other countries in the Global South.

# Acknowledgments

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# Foreword

It is with great pleasure that I introduce our latest report on *Water Security: Diplomacy, Global Cooperation, and Effective Management of Shared Rivers*. We are sincerely committed to promoting sustainable development and addressing global challenges that affect not only our generations but generations to come. As the Programme Director of KAS Multinational Development Policy Dialogue (MDPD), I have had the honor to be a part of the extremely important efforts on promoting hydro-diplomacy and transboundary water governance, led by KAS-MDPD and our cooperation partners the Stimson Center, since 2019.

Undeniably, water security is one of the most pressing challenges facing our planet today. It affects every facet of our lives, from health to the economy and even politics. Exacerbating climate change is shifting global water patterns and the demand and supply gap for freshwater resources, amidst national security concerns, is further stressing existing groundwater and transboundary river systems worldwide. In a 2001 published article, Dr. Peter J. Ashton, a Water Resources and Water Quality Specialist, stressed that in transboundary contexts, basin-wide countries must come together in a way in which each of them fully trusts the motives and promises of their partners. With that in mind, through our joint project, we have convened three high-level dialogues and a series of joint working group discussions to jointly assess the risks and threats to water security and gauge opportunities for future inter-and intra-regional cooperation and trust-building between co-riparians.

At KAS, we are committed to providing rigorous analysis and evidence-based policy recommendations to support decision-making at national, regional, and global levels. We believe that this report is a valuable contribution to the international dialogue on water security and diplomacy, and we hope that it will serve as a useful resource for policymakers, water experts, and all stakeholders who are working to advance the cause of water.

I would like to express my gratitude to the author of the report whose expertise and dedication have made this publication possible. I would also like to thank our cooperation partner, the Stimson Center, for their ongoing collaboration and commitment to ensuring a peaceful and resilient water future for all.

Sincerely,

A handwritten signature in blue ink, appearing to read 'D. Schrey', with a long horizontal stroke extending to the right.

Denis Schrey  
Programme Director  
KAS Multinational Development Policy Dialogue (MDPD)

# Table of Contents

<b>About Us</b> .....	<b>2</b>
Konrad-Adenauer-Stiftung .....	2
The Stimson Center .....	3
<b>Acknowledgments</b> .....	<b>3</b>
<b>Foreword</b> .....	<b>4</b>
<b>Executive Summary</b> .....	<b>6</b>
<b>I. Hydro-diplomacy, Global Cooperation, and Legal Frameworks</b> .....	<b>7</b>
i. Global Action and International Laws.....	7
ii. Designing Agreements and Enabling Greater Information Sharing.....	10
<b>II. Spotlight on Transboundary Rivers and Key Water-Stressed Regions</b> .....	<b>11</b>
i. South Asia .....	11
ii. Central Asia .....	14
iii. The Middle East .....	16
<b>III. River Basin Organizations (RBOs)</b> .....	<b>19</b>
<b>IV. Gender-Water Linkages</b> .....	<b>23</b>
<b>V. Water-Food-Energy (WFE) Nexus</b> .....	<b>27</b>
<b>VI. International Hydrodiplomacy Conference Roundup</b> .....	<b>31</b>

## Executive Summary

In 2022, the growing impacts of climate change and water stress have been felt across the globe: the prolonged droughts in the Middle East and North Africa, erratic monsoons in South Asia, and record-breaking heat waves in Europe all wreaked humanitarian and socio-economic havoc. Certainly, the climate crisis is unraveling on the planet much faster than formerly perceived and there has been a particularly profound impact on global freshwater resources. Water scarcity already impacts almost 2 billion people around the world, and this figure will further multiply in the near future as more and more regions come to experience conditions of severe water stress.<sup>1</sup>

This intensifying global water stress demands a more urgent and proactive response from all stakeholders involved. Last year, COP27 reinforced the need for international cooperation to assist countries and communities to build greater resilience and combat water insecurity. This year in March, the United Nations (UN) is hosting a water conference—the first since 1977— on the Midterm Comprehensive Review of the implementation of the UN Decade for Action on Water for Sustainable Development 2018-2028.<sup>2</sup> The UN Water Conference is anticipated to be a pivotal moment to accelerate water action to achieve both Sustainable Development as well as climate action goals.

This report builds on KAS and Stimson's previous work under the Water Security and International Hydro-diplomacy project to examine the importance of global water cooperation and diplomacy for a sustainable and secure future for all. It serves to evaluate the effectiveness of existing regional and basin-wide water governance mechanisms, the significance of international institutions, the relevance of multi-stakeholder partnerships, and calls for an urgent recognition and implementation of the water-food-energy nexus within transboundary river contexts. Lastly, the report also features an overview of the project's most recently concluded 2-day conference on *International Hydro-diplomacy: Building and Strengthening Transboundary Water Governance Institutions*.

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1 UNICEF, "Water Scarcity."

2 United Nations, "UN 2023 Water Conference."

# I. Hydro-diplomacy, Global Cooperation, and Legal Frameworks

The global supply of freshwater resources is rapidly diminishing amidst growing demand. Billions of people around the world currently lack equitable and adequate access to clean water. Approximately 2.3 billion people live in countries classified as water-stressed, out of which almost 733 million live in what are considered to be high and critically water-stressed countries.<sup>3</sup> Growing water scarcity, and consequently intensifying water insecurity, is a fast-emerging systemic global risk that demands urgent attention and international action. The challenge is even more acute from the vantage of transboundary rivers.

There are approximately 286 transboundary lakes and river basins, 592 transboundary aquifer systems, and almost 153 countries that include territory within international basins.<sup>4</sup> As water scarcity intensifies and freshwater supplies dwindle, competition over shared water resources is likely to surge as well as subsequently impact cross-border politics and destabilize relations between riparian countries. However, cooperation, both in terms of transboundary water management and governance, has immense potential to not only support pursuit of development goals but also mitigate water-related conflicts.

## i Global Action and International Laws

In recent years, governments, international agencies, and civil society organizations have worked to advance the cause of water security. The United Nations (UN) Sustainable Development Goals (SDGs), an ambitious 17-point agenda adopted in 2015, call for *ensuring the availability and sustainable management of water and sanitation for all*.<sup>5</sup> In June 2022, the White House launched its action plan on global water security recognizing the importance of integrating water into national security and laying out a framework to advance water security within the United States and globally.<sup>6</sup> In the context of transboundary rivers, the most prominent and revered international conventions are a) the 1992 Convention on the Protection and Use of Transboundary Watercourses and International Lakes, also known as the United Nations Economic Commission for Europe (UNECE) Water Convention, which was adopted in Helsinki in 1992 and entered into force in 1996, and b) the 1997 United Nations Convention on the Law of the Non-Navigational Uses of International Watercourses, commonly known as the UN Watercourses Convention. The 1997 Watercourses Convention serves to complement the UNECE Water Convention, as seen in Figure 1, by highlighting equitable and reasonable utilization, uptake of appropriate measures to not cause significant harm, and upholding the protection of ecosystems of an international watercourse.<sup>7</sup> As Former UN Secretary-General, Ban Ki-Moon, conveyed at the sixth session of the Meeting of the Parties to the Water Convention in November 2012, “the

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3 UN Water, “Water Scarcity.”

4 United Nations Economic Commission for Europe, “Second Reporting Exercise, 2020/21, on SDG Indicator 6.5.2.”

5 United Nations Department of Economic and Social Affairs, “Goal 6.”

6 White House, *Fact Sheet*.

7 UNESCO, “Existing Arrangements.”

globalization of the UNECE Water Convention should also go hand-in-hand with the expected entry into force of the UN Watercourses Convention. These two instruments are based on the same principles. They complement each other and should be implemented in a coherent manner.”<sup>8</sup>

#### **1992 UNECE Water Convention**

The UNECE Water Convention requires all parties to “prevent, control, and reduce transboundary impact, use transboundary waters in a reasonable and equitable way and ensure their sustainable management.” The Convention lays out rules for all signing parties with shared waters to cooperate via agreements and joint institutions to oversee the management and governance. The Convention, however, does not replace any existing bilateral agreements between any Parties to the Convention—the European Union (EU) and 38 countries from the UNECE region. Rather, it focuses on strengthening all cooperative frameworks.

Since the 1990s, the Water Convention has been particularly instrumental in the pan-European region, where it played an important role in the development of transboundary agreements and joint institutions. However, it was not until 2003 that the Convention was opened up globally for countries outside of Europe. The Parties realized the advantages of the Convention’s principles which can help scale efforts on transboundary cooperation at the global level. Therefore, following an amendment, since March 2016 all UN Member States could accede to it and Chad and Senegal have become the first African Parties to the Convention in 2018.<sup>9</sup> As of January 2023, there are 47 Parties and 26 signatories to the UNECE Water Convention.<sup>10</sup>

#### **1997 UN Watercourses Convention**

On May 21, 1997, the United Nations General Assembly adopted the International Convention on the Use of Watercourses for Non-Navigational Purposes. Almost 131 countries voted in favor of the agreement, the only exceptions being Burundi, Turkey, and China, which voted against it and India abstained from voting. The Watercourses Convention discusses watercourse agreements, equitable and reasonable utilization, the obligation not to cause significant harm, and the notification of planned measures, protection, conservation, and management. Per the Convention, states which are party to the convention in whose territory part of an international watercourse is situated *shall cooperate based on sovereign equality, territorial integrity, mutual benefit, and good faith to attain optimal utilization and adequate protection of an international watercourse.*<sup>11</sup> As of 2020, the UN Watercourses Convention has 37 contracting or ratifying Parties.<sup>12</sup>

8 United Nations Economic Commission for Europe, *The Global Opening of the 1992 Water Convention*, 15.

9 Ibid.

10 United Nations, *Convention on the Protection and Use of Transboundary Watercourses and International Lakes*.

11 United Nations, *Convention on the Law of the Non-navigational Uses*, 4.

12 UN Watercourses Conventions, “UN Watercourses Convention FAQs.”



## HOW ARE THE TWO GLOBAL WATER CONVENTIONS COMPLEMENTARY?

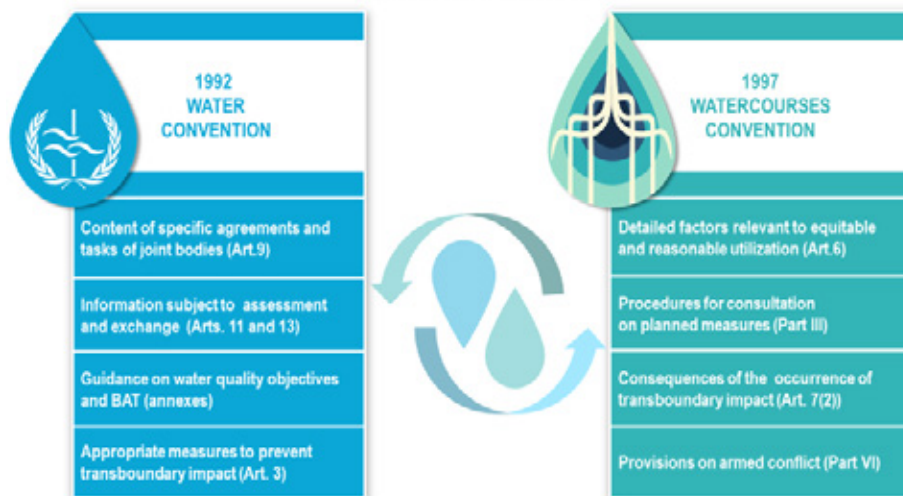


Figure 1: How are the two global water conventions complementary?<sup>13</sup>

Understanding existing legal instruments is important when discussing water security.

*International law can play a critical role in fostering cooperation over shared waters, supporting greater information sharing between riparian countries, and preventing conflict scenarios, specifically in regions where transboundary water resources have become a distinctly politicized element.*

Unfortunately, traditionally recognized international law has fallen short of achieving this goal largely due to a lack of legally binding agreements, absence of political will, and inefficient international structures that can effectively oversee required provisions. Some of the most populous and water-scarce countries in the world, often housed within conflict-prone regions, have yet to ratify the two Conventions. In many cases, these countries also do not have a bilateral water-sharing agreement with neighbors making shared water resources a zero-sum issue of sovereignty. This leads to an unfortunate “tragedy of the commons” scenario, with competition supplanting regional cooperation.<sup>14</sup>

Pursuit of SDGs can also serve as a motivating factor for countries to cooperatively manage shared water resources. The SDG target 6.5 calls for countries to “implement integrated water resources management at all levels, including through transboundary cooperation as appropriate.”<sup>15</sup> The SDG Indicator 6.5.2, which was adopted by the UN General Assembly in 2017, measures the “proportion of transboundary basin area [within a country] with an operational arrangement for water cooperation.”<sup>16</sup> The monitoring of transboundary cooperation was a step in the right direction as it provided the much-needed impetus for countries to accelerate progress on transboundary cooperation. The first reporting of the SDG Indicator 6.5.2, in 2017-2018, gathered 107 country responses out of the 153 countries sharing transboundary waters and indicated that only 17 countries with transboundary Waters were covered by operational arrangements.<sup>17</sup>

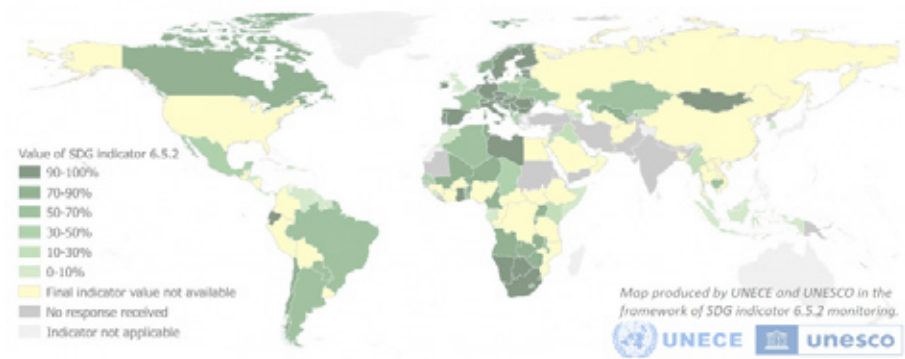
13 United Nations Economic Commission for Europe, “FAQs Part 3: 3. Relationship with the 1997 Watercourses Convention.”

14 Aamer and White, “Depoliticizing South Asia’s Water Crisis.”

15 United Nations Economic Commission for Europe, “Reporting on SDG Indicator 6.5.2 and under the Water Convention.”

16 UN Water, “Indicator 6.5.2 ‘Proportion of Transboundary Basin Area with an Operational Arrangement for Water Cooperation.’”

17 United Nations Economic Commission for Europe, “First reporting exercise, 2017/18, on SDG indicator 6.5.2.”



Second reporting exercise, 2020/21, on SDG indicator 6.5.2<sup>18</sup>

In 2020, during the second reporting on SDG 6.5.2, there was an improvement in the response rate as 129 out of the 153 countries sharing transboundary basins submitted their national reports on the status of cooperative arrangements. While the improved response rates were perceived as a measure of success, the indicator results themselves reflected that cooperation remained inadequate. Only 32 countries had 90 percent of their transboundary basin area covered by operational arrangements and of these, only 24 countries had the entire basin area covered.<sup>19</sup> Much like the Conventions, the provisions and ambitions of the SDG Agenda are yet to be met with an equal sense of commitment and tangible action. Countries, along with all key national and international policy shapers, will have to strengthen efforts in order to ensure that all transboundary basin areas fall under operational arrangements by 2030.

## ii. Designing Agreements and Enabling Greater Information Sharing

Recognizing the importance of transboundary waters being governed under an agreement or legal arrangement between countries, the UNECE developed its own guide on the “how-to” of transboundary water cooperation, published as the “Practical Guide for the Development of Agreements or Other Arrangements for Transboundary Water Cooperation.”<sup>20</sup> The Practical Guide provides guidance on drafting arrangements and agreements based on the following elements:

- *“Thematic modules, which help structure an agreement or other arrangement for transboundary waters;*
- *Building blocks, which correspond to possible provisions or issues within an arrangement;*
- *Key aspects of each building block, which suggest its primary content;*
- *Introductory text to each building block, setting out its context and rationale;*
- *Key considerations, which explain different approaches that might be taken within the arrangements, and the implications thereof;*
- *Examples from treaty practice that illustrate how to frame a particular provision; and*
- *Support resources to assist States in developing the content of a particular provision, e.g., specific guidance documents developed under the 1992 Water Convention.”<sup>21</sup>*

<sup>18</sup> United Nations Economic Commission for Europe, “Second Reporting Exercise.”

<sup>19</sup> Ibid.

<sup>20</sup> United Nations, Practical Guide for the Development of Agreements or Other Arrangements for Transboundary Water Cooperation.

<sup>21</sup> Ibid, 3.

In addition to the UNECE's guide, countries with shared waters, both surface and groundwater, should also learn from the experiences of regions and river basins with successful water-sharing arrangements and cooperation under joint institutions. One of the earliest examples of water sharing comes from Europe through the 1905 agreement between Norway and Sweden regarding their shared watercourses.<sup>22</sup> In North America, an early example is the 1909 Boundary Waters Treaty between Canada and the United States to create an International Joint Commission to ensure harmonious relations while jointly managing the shared water resources in an equitable and fair manner.<sup>23</sup>

Despite significant efforts in recent years towards advancing the importance of cooperative management of transboundary rivers, either by way of international calls to action or Conventions, numerous challenges remain and need to be addressed in a timely fashion. The “zero-sum” approach to shared water governance, still embedded within the power dynamics between countries, continues to hamper cooperation. Even where agreements and treaties exist, there are transparency issues and a pressing need to update and revise provisions in accordance with the changing nature of the climate, population demands, and other factors. Effective governance and management of transboundary rivers will not only mitigate the chances of disputes and conflicts but also ensure that lives and livelihoods are supported, both now and in the future.

## II. Spotlight on Transboundary Rivers and Key Water-Stressed Regions

### i. South Asia

South Asia is home to some of the most prominent transboundary river basins in the world, most notably the Indus River Basin, the Yarlung-Tsangpo/Brahmaputra River Basin, and the Ganges River Basin. The region is also one of the fastest-growing regions globally with a population of almost 1.9 billion people and counting. Despite the region's population and high dependency on its rivers to sustain lives, South Asia accounts for only 4% of the world's annual renewable water—creating a wide gap between demand and supply.<sup>24</sup> In addition, the region also ranks high on climate vulnerability. In recent years, shifting weather patterns have not only brought a range of extreme weather events like floods, landslides, and droughts but also have led to rapid glacial melt, erratic monsoon periods, ecosystem degradation, and groundwater depletion—further exacerbating the region's water stress. Regional transboundary rivers also traverse the boundaries of countries that share years of political distrust and animosity. Despite shared concerns over the intensifying water scarcity, these historically adversarial countries have found it particularly hard to cooperate and engage over shared waters.

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22 Flem et al., “Groundwater Governance in International River Basins,” 2.

23 International Joint Commission, “The Boundary Waters Treaty of 1909.”

24 Sinha, *Riverine Neighbourhood: Hydro-Politics in South Asia*, 17.



South Asia Transboundary River Basins: Ganges, Brahmaputra, Meghna

The Yarlung-Tsangpo/Brahmaputra River, for example, is shared between India, China, Bhutan, and Bangladesh. The two main co-riparians, India and China, are both rapidly advancing economies with years of strained political relations and cross-border tensions over the disputed border of Line of Action Control (LAC). Concern over a potential water conflict is always present, as the upstream riparian China controls more than half the basin's area but has shown little interest in cooperating with its downstream neighbors over how the river is managed. There are no formal water-sharing agreements, and neither India nor China has ratified either the UNECE Water Convention or the UN Watercourses Convention. The only existing form of cooperation between these two countries is through signed Memorandums of Understanding (MoUs) on hydrological data sharing, for the Sutlej and Brahmaputra Rivers, meant to pre-empt and control flooding scenarios downstream in India.<sup>25</sup>

While these MoUs have surely helped pave the way for dialogue and interaction between India and China, politically tense periods have led to non-compliance with the MoU requirements. In 2017, post a military border standoff between the People's Liberation Army (PLA) of China and Indian Armed Forces over the Chinese construction of a road in Doklam, it was believed that China withheld hydrological data resulting in unpreparedness on India's part in face of flooding in Assam and Uttar Pradesh state. Such instances have only instigated more fears and concerns over the Brahmaputra becoming a politicized and securitized element in Sino-Indian relations. China's most recent plans to build a "Super dam" at the Great Bend of the Yarlung-Tsangpo/Brahmaputra River added fuel to fire, as many in India fear that such an intervention could lead to the diversion of water from the downstream.<sup>26</sup>

In the presence of concrete water-sharing agreements, plans of any interventions and developments on the shared river, such as the Super dam, would only move forward with the approval of all riparian countries, mitigating chances of backlash or disputes. Even where joint mechanisms or agreements exist in South Asia, such as the India-Pakistan Indus Waters Treaty of 1960 and

25 Government of India, Department of Water Resources, River Development, and Ganga Rejuvenation, "India-China Cooperation."

26 Ghosh, "Chinese Dam on Yarlung Tsangpo/Brahmaputra: Should India Be Concerned?"

the India-Bangladesh Ganges Water Sharing Treaty of 1996, long-standing and intransigent bilateral disputes have often overshadowed these agreements.<sup>27</sup> <sup>28</sup> Every time there is a diplomatic deadlock between India and Pakistan, there are concerns over the potential revocation of the Indus Water Treaty and over the years, both neighbors have accused one another of not abiding by the Treaty's provisions.



*Indus River in Ladakh*

The nature of transboundary water governance in South Asia thus remains a volatile issue. The basin, both on a national as well as regional level, suffers from gaps in knowledge-sharing as well as appropriate institutional frameworks for the implementation of collaborative action.

*In order to prevent sovereignty-oriented mindsets from taking the front seat and employing unilateral thinking over an approach which focuses on shared waters, South Asia must take action to ensure that transboundary water governance is given priority.*

By encouraging transparency and open communication between countries through additional joint mechanisms or by leveraging the potential of existing regional bodies like South Asian Association for Regional Cooperation (SAARC) and Bangladesh, Bhutan, India, Nepal (BBIN), there will be more opportunities for mediation, arbitration, or other peaceful means to resolve water-related disputes. These efforts can be further facilitated by the involvement of international agencies and multilateral forums.

<sup>27</sup> World Bank, "Fact Sheet: The Indus Waters Treaty 1960 and the Role of the World Bank."

<sup>28</sup> Treaty on Sharing of the Ganga/Ganges Waters at Farakka.

## ii. Central Asia

Central Asia's growing water scarcity, exacerbated by climate change, and rising demands from the agricultural and energy sectors, is fast becoming a major concern for the region's sustainability and overall development. Irrigated agriculture contributes to approximately 20% of the regional GDP and is responsible for employing nearly 40% of the population, and hydropower accounts for almost 21% of the average regional energy consumption.<sup>29</sup> The region's rapidly growing population, along with poor management of the existing water resources and shared rivers, further heightens the threat of resource competition between the five Central Asian countries of Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan.

One of the most cited examples of the region's climate and water woes is that of the Aral Sea, a saltwater lake between Kazakhstan and Uzbekistan, which was once the fourth-largest lake in the world with an area of almost 68,000 square miles.<sup>30</sup> Over the past six decades, the Aral Sea has been shrinking due to the overuse of its water sources for irrigation and other purposes. Extensive agricultural activity, whereby which a large amount of water is withdrawn for irrigation from the two major rivers of Amu Darya and Syr Darya rivers even under minimal flow conditions, has resulted in considerable pressures on the base flow required for downstream ecosystems. In addition to that, the river water quality is adversely impacted due to the drainage water discharge. The temperatures are projected to rise, and aridity is expected to increase across the entire region, particularly in the summer months. These seasonal shifts in climate are likely to further impact the basin and related agricultural activities.



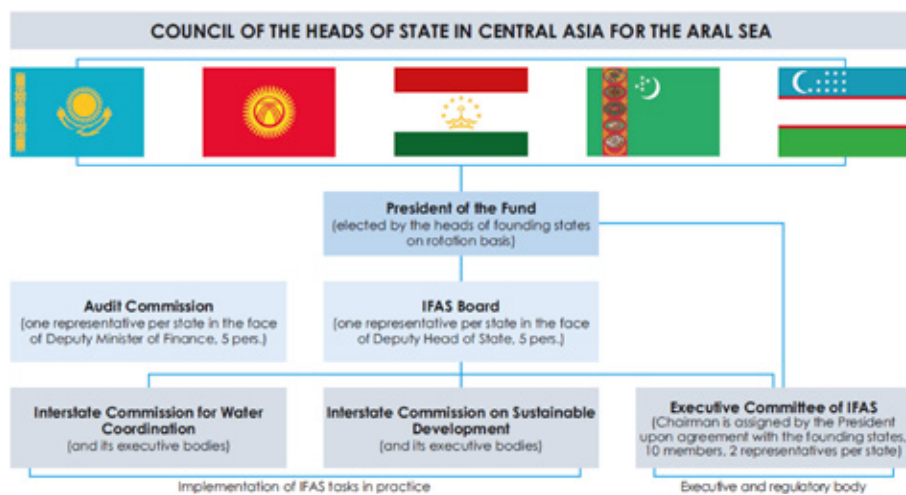
*Panj River and Pamir mountains, Amu Darya River*

29 Aamer et al., *International Hydro-Diplomacy: Building and Strengthening Regional Institutions for Water Conflict Prevention*.

30 Mambra, "Aral Sea Disaster: Why One of the Biggest Inland Seas Dried Up?"

*The Aral Sea crisis serves to highlight the importance of cooperation between Central Asian countries in ensuring the sustainable use of shared water resources.*

Since the 1960s, when the Soviet Union began its massive irrigation and development plans, the countries of the region have been working together to address the crisis. However, it was only in the 1990s that the five Central Asian countries came to sign the International Fund for Saving the Aral Sea (IFAS) agreement. Established in January 1993, the IFAS paved the way for countries to cooperate under a regional framework designed to support research projects and programs for the ecological improvement of areas impacted by the Aral Sea crisis.<sup>31</sup>



*The organizational setup of IFAS<sup>32</sup>*

IFAS houses four regional comprehensive Aral Sea Basin Programs (ASBPs) which work to combat the region’s environmental challenges as well as manage transboundary water resources. In addition, the Interstate Commission for Water Coordination of Central Asia (ICWC), established in 1992 by the five Central Asian countries to oversee the “agreement on cooperation in joint management, use and protection of interstate sources of water resources,” is another key mechanism for cooperation.<sup>33</sup> The ICWC is the only interstate body that can make binding decisions on issues pertinent to interstate water allocation and usage. The ICWC’s main responsibilities include determining the regional water policy, planning and approving water use limits for each riparian country, and ensuring that the water resources are equitably shared, keeping in mind the economic needs of each country.<sup>34</sup> ICWC enables collective decision-making on common water-related issues and joint development programs while keeping the dialogue and communication channels open between countries, even when political tensions arise.

Nevertheless, challenges exist: the integration of irrigation, hydropower, and ecosystem requirements are not well built into ICWC’s governance and decision-making circuits, and traditionally these sectors have not had a seat at the table which makes the process less inclusive and interdisciplinary. ICWC also lacks full jurisdiction over the rivers with limited control over national implementation. Non-compliance with ICWC decisions is not sanctioned and economic incentives for compliance are underdeveloped. There are also

<sup>31</sup> Interstate Commission for Water Coordination of Central Asia, “International Fund for Saving the Aral Sea.”

<sup>32</sup> Ibid.

<sup>33</sup> Interstate Commission for Water Coordination of Central Asia, “Mandate and Objectives.”

<sup>34</sup> Ibid.

numerous technical barriers in terms of poor quality of flow forecasts and inadequate information exchange, which limits the commission's ability to aptly monitor river flows and lay out effective management policies.<sup>35</sup> Given the looming water crisis, the region must work to ensure greater transboundary river cooperation and management. Strengthening the capacity and capability of regional institutions to manage water resources can in turn help support countries to scale efforts on both national and regional levels to utilize scarce water resources more effectively.

### iii. The Middle East

The Middle East is perhaps one of the most conflict-prone and climate-vulnerable regions in the world. As record temperatures and extreme weather continue to wreak havoc on the region, climate change is poised to further drive conflict and resource competition, threatening the lives and livelihoods of the region's growing population.

According to the World Resources Institute (WRI), the Middle East is already home to 12 of the world's 17 most "water-stressed countries."<sup>36</sup> Additionally, the World Bank estimates that climate-related water scarcity will cost countries in the region between 6 to 14 percent of their GDP by 2050.<sup>37</sup> The Middle East also houses some of the world's major transboundary rivers, including the Nile, the Euphrates-Tigris, and the Jordan rivers which have been a source of major contention throughout modern history. For example, the Euphrates-Tigris basin, shared between Turkey, Iraq, Syria, and Iran, is perhaps one of the most contentious transboundary rivers in the world. Since 1960, political tensions and constant mistrust between upstream Turkey and downstream Iraq and Syria have marred cooperative and coordinated transboundary river governance. Increasing demands on the river, especially for clean energy, have led riparian countries to harness the river's potential for hydropower generation and other economic uses, which have led to basin-wide tensions in the absence of formal coordinating mechanisms. The discussions around the construction of the Keban Dam by Turkey in the 1960s was one of the first instances which paved the way for negotiations between the copriarians on river-related developments. The Keban Dam was designed for electricity production and projected to have no impacts on river flows, but the downstream riparians, particularly Iraq, insisted on guaranteed flows of 350 m<sup>3</sup>/sec at minimum to be released by Turkey during the impounding period as a precaution. With that guarantee, Turkey would receive no opposition to the dam-building by downstream neighbors. After a series of negotiations, in 1966 an agreement was signed with USAID—the acting donor of the project—in which Turkey finally issued the guarantee to downstream countries.<sup>38</sup>

Historically, water policies had always been considered a politicized subject in the region, and it was not until the late 1990s and early 2000s that there was an improvement in relations between the three riparians which subsequently led to better means of water cooperation. In 2001, a Joint Communiqué was formed between Turkey and Syria to advance the sustainable use of shared natural resources through joint projects and knowledge exchange. One of the biggest achievements of the Communiqué was that it served as a framework for later agreements, such as the landmark Memorandums of Understanding

35 Aamer et al., *International Hydro-Diplomacy*.

36 Willem et al., "17 Countries, Home to One-Quarter of the World's Population, Face Extremely High Water Stress."

37 World Bank, "High and Dry: Climate Change, Water, and the Economy."

38 Kibaroglu and Ünver, "An Institutional Framework for Facilitating Cooperation in the Euphrates-Tigris River Basin," 4.



(MoU) on water management between Iraq and Turkey throughout the 2000s and others between Syria and Turkey in 2009. However, the perpetually tense political situation in the region and the absence of adequate institutional capacities have often impeded the countries from successfully implementing the vision laid out in the MoU protocols.



*Basra, Iraq*

Another example is that of the Jordan River which has frequently borne the brunt of regional population growth, climate change impacts, and the ongoing conflict in the Middle East. In recent times, the Jordan River's flow has fallen to just under 10 percent of its historical average, reflecting how the water crisis is fast transpiring in the region.<sup>39</sup> The transboundary nature of the river and its tributaries, which like the Euphrates-Tigris system largely lack formal agreements, further complicates matters, especially with the ongoing instability in Syria and the region's growing migration crisis. On the Upper Jordan River, Lebanon and Syria tend to follow unilateral approaches to water resources, minimizing avenues for cooperation. However, on the Lower Jordan River, there are examples of cooperation such as the peace agreement between Israel and Jordan, signed in 1994, which also included provisions for water.<sup>40</sup> In fact, Israel and Jordan have an active Joint Water Committee through which the countries are working to rehabilitate the Lower Jordan River, plan for flood mitigation, and maintain biodiversity. Unfortunately, there is still no coordinating mechanism with Syria, and concerns over water have continued to play a role in the overall Arab-Israeli conflicts. For instance, the Six-Day War in 1967 where Israel captured the territory of the Golan Heights from Syria, the Sinai Peninsula from Egypt, and the West Bank from Jordan within six days, is believed to have had its roots in the sharing of the Jordan River.<sup>41</sup> The

<sup>39</sup> Aviram et al., *Coping with Water Scarcity in the Jordan River Basin*.

<sup>40</sup> U.N.T.S., Treaty of Peace between the Hashemite Kingdom of Jordan and the State of Israel.

<sup>41</sup> Seliktar, "Turning Water into Fire: The Jordan River as the Hidden Factor in the Six-Day War," 57.

war made Israel the most dominant riparian controlling most of the water resources within the Jordan watershed.

The Middle East's water scarcity, conflict, and migration nexus demands urgent attention. It is imperative for the region, with the help of the international community, to solidify diplomatic engagement between co-riparians and to consider water allocation in the context of environmental migration and food security.

*Through more coordinated governance, planning, and management of the shared rivers, there is potential for saving existing water reserves while keeping water-related conflicts and tensions at bay.*

Nevertheless, any future solutions will have to be backed by strong political will of regional countries and with the complete understanding of the interlinkages between climate and water-related risk of violence.

### **Water Crisis in the Horn of Africa**

Extremely vulnerable to climate change, the Horn of Africa is experiencing one of the longest-running drought periods and, with that, one of the most notable climate-induced emergencies of the past 40 years. The drought has subsequently led to severe water crises across the region, with almost 8.5 million people undergoing acute levels of water shortages.<sup>42</sup> Given the food and water interlinkages, the region is also deeply food insecure. In August of 2022, it was reported that 22 million people in the region were highly food-insecure and faced famine-like conditions.<sup>43</sup>

The region also has a long and calamitous history of violent conflicts and continued instability. The East and Horn of Africa regions also face a grave refugee problem. By the end of 2021, there were almost 4.9 million refugees and asylum seekers and over 12 million internally displaced persons within these regions.<sup>44</sup> The region is a breeding ground for political, humanitarian, defense, and climate security issues, which all need to be accounted for when designing efforts for conflict prevention and the region's secure future.

<sup>42</sup> UNICEF, *Water Crisis in the Horn of Africa*.

<sup>43</sup> United Nations, "WFP Scales up Support for Millions Who 'Cannot Wait' for Food Aid amid Horn of Africa Drought."

<sup>44</sup> United Nations High Commissioner for Refugees, East and Horn of Africa and Great Lakes.



*Refugee camp in Africa: People living in poor conditions with limited access to food, clean water, and proper shelters.*

### III. River Basin Organizations (RBOs)

Traditionally, water management and governance have been viewed as administrative efforts that occurred in a sectoral manner within classified divisions. Each water-related sector, whether hydropower or agriculture, or climate change, had a different management structure with limited overlap or synergy with one another. It is only in recent years that there has been a pivot towards a greater understanding of the interdisciplinary nature of water and the need to find a coordinating mechanism that can help promote an integrated water resources management (IWRM) system. One of the most propitious ways to do that is to consider the river basin as a central management unit.

River basin organizations (RBOs) are considered the main type of institution for governing the development and management of water resources at the watershed level, which includes transboundary waters.<sup>45</sup> RBOs can help facilitate cooperation between stakeholders over water by bringing different sectors together and ensuring that water usage is fair, equitable, and in no way degrading to the ecosystem. On a transboundary level, RBOs can play a much bigger role in fostering trust and cooperation between upstream and downstream countries—particularly when countries are competing over depleting water reserves, racing to build dams, and trying to combat the impacts of climate change. RBOs have the potential to elevate themselves as international organizations that oversee the compliance of riparian countries to the agreed-upon norms, rules, and governance principles.<sup>46</sup>

<sup>45</sup> GWP Toolbox, “Basin Organisations.”

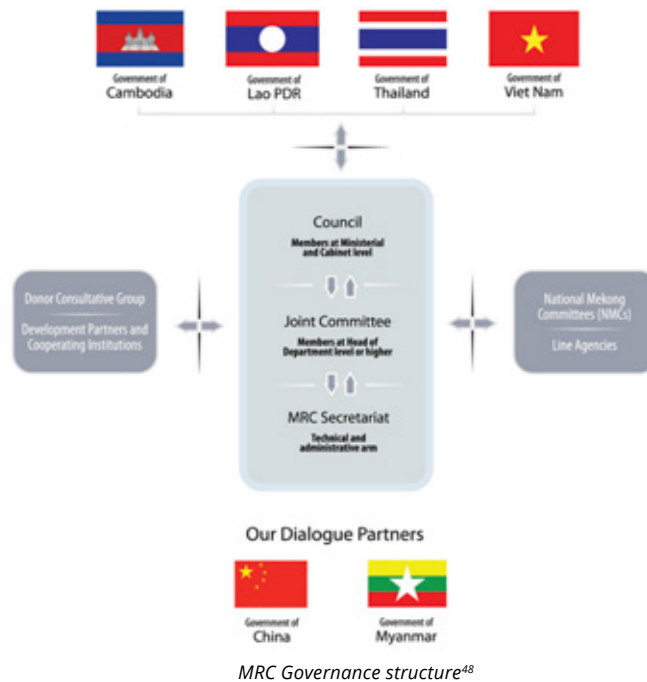
<sup>46</sup> Schmeier et al., “Clearing the Muddy Waters of Shared Watercourses Governance: Conceptualizing International River Basin Organizations.”

*In a world that is increasingly marred by the notion of water politics and securitization of shared water resources to advance political interests, effective institutional frameworks like RBOs can serve as important platforms for hydro-diplomacy, pave the way for policy debates, and create fresh avenues of engagement for all stakeholders to advance the international climate and water agenda.*

Examples of some notable Transboundary River Basin Organizations:

- The Mekong River Commission (MRC):** an intergovernmental institution established in 1995 and comprises four riparian countries of the lower Mekong basin: Cambodia, Lao PDR, Thailand, and Viet Nam. The MRC is made up of three permanent bodies: the Council, Joint Committee, and the MRC Secretariat. Each participating country has a National Mekong Committee which serves as the main point of contact liaison for the MRC Secretariat. The MRC’s various operations and functions are designed to facilitate dialogue among the participating countries and work towards a sustainable future for the Mekong. The MRC covers a wide range of activities including basin monitoring and information sharing while delivering outcomes in four key result areas:
  - Enhancement of national plans, projects, and resources from basin-wide perspectives;
  - Strengthening of regional cooperation;
  - Better monitoring and communication of the basin conditions;
  - Leaner River Basin Organisation.<sup>47</sup>

### Mekong River Commission Governance Structure



47 Mekong River Commission, “Vision and Mission.”

48 Mekong River Commission, “Governance and Organisational Structure.”

• **Nile Basin Initiative (NBI):** an intergovernmental organization established in 1999 by ten Nile riparian states: Burundi, DR Congo, Egypt, Ethiopia, Kenya, Rwanda, South Sudan, Sudan, Tanzania, and Uganda. The NBI’s mission is to employ a shared vision and a cooperative framework toward the sustainable development of the Nile Basin region. Its official objective is *“To achieve sustainable socio-economic development through the equitable utilization of, and benefit from, the common Nile Basin water resources.”*<sup>49</sup> Keeping the win-win approach in mind, the NBI works to promote transboundary water cooperation through continued dialogue and consensus-driven decision-making. The highest decision-making body of NBI is the Nile Council of Ministers (Nile-COM), which is made up of representatives of each NBI member country. The Nile-COM is supported by the Nile Technical Advisory Committee (Nile-TAC), and there is also a Secretariat (Nile-SEC) that is responsible for the overall corporate direction. The structure also includes an Eastern Nile Technical Regional Office (ENTRO) for the Eastern Nile Subsidiary Action Program (ENSAP) and the Nile Equatorial Lakes Subsidiary Action Program Coordination Unit (NELSAP-CU), for the Nile Equatorial Lakes Subsidiary Action Program (NELSAP).

### NBI: OUR PRIORITIES FOR 2017-2027

**1. WATER SECURITY: MEETING RISING WATER DEMANDS**  
The water availability per capita is in decline. Nile Basin countries need to explore new water sources, reuse water and use less water more efficiently.

**2. ENERGY: UNLOCKING AND OPTIMISING HYDROPOWER POTENTIAL**  
The demand for energy is increasing. Countries need to harness the Nile Basin’s hydropower potential and interconnect grids to enable regional power transmission and trade.

**3. FOOD: INCREASING AGRICULTURAL PRODUCTIVITY**  
The per capita food production is less than adequate. Nile Basin countries need to produce more food with less water and fully exploit regional agricultural trade.

**4. ENVIRONMENT: RESTORING DEGRADED ECOSYSTEMS**  
Life-sustaining environmental services are jeopardised. Countries need to maintain wetlands, lake and riverine ecosystems, and sustainably manage critical water source catchments.

**5. CLIMATE CHANGE: IMPLEMENTING EFFECTIVE ADAPTATION MEASURES**  
Climate Change manifests itself largely through its impact on water resources, i.e. floods and droughts. Countries must work together on transboundary climate resilient interventions.

**6. GOVERNANCE: PLANNING AND TAKING ACTION TOGETHER**  
Transboundary challenges require transboundary solutions. Nile Basin countries need to work together, strengthen water governance and build consensus on the regional level.

Logos: European Union, German Cooperation, giz, m'CT

NBI Strategy 2017-2027 <sup>50</sup>

The NBI laid out its 10-Year Strategy, prepared in consultation with all its member countries, to set priorities for the years 2017-2027. The strategy was also inspired by other regional and global instruments such as the Africa Water Vision 2025, the AU’s Agenda 2063, and the UN’s Sustainable Development Goals (SDGs). The strategy focuses on six key priority areas which include water, food, and energy security; environmental sustainability; climate change adaptation; and strengthening transboundary water governance.<sup>51</sup>

• **Senegal River Basin Development Organisation (OMVS):** a regional cooperation body of the Senegal river basin, including four riparian countries. Established in 1972 as a response to devastating long-term drought, OMVS focuses on the implementation of the equitable sharing principle among member states by managing basin water infrastructure

49 Nile Basin Initiative, “Nile Basin Initiative.”

50 Ibid.

51 Nile Basin Initiative, “NBI Strategy.”

and generating benefits. Backed by its member states, the OMVS ensures its financial stability and thus carries out projects which are both technically feasible and politically supported despite any geopolitical differences in the region. Some successful examples of cooperation include a partnership with World Bank within Senegal River-Basin Multi-Purpose Water Resources Development Project (PGIRE).<sup>52</sup> OMVS' follows the following objectives:

- Reduce the vulnerability of Member States' economies to climatic hazards and external factors.
- Preserve the balance of basin ecosystems.
- Contribute to the food self-sufficiency of populations.
- Contribute to the economic and social development of member states.
- Securing and improving the incomes of the basin's population.



KAS and Stimson with OMVS' Representatives at the 9<sup>th</sup> World Water Forum in Dakar, Senegal.

<sup>52</sup> Aamer et al., *International Hydro-Diplomacy*.

## IV. Gender–Water Linkages

It has been established that rising water insecurity around the globe will severely impact the lives and livelihoods of billions in an unprecedented manner and hinder regional ambitions for economic development and growth. Within this, what demands progressively greater attention is the intersection of water security and gender issues.

Gender mainstreaming in the water sector is the idea of addressing the unique issues and challenges faced by women, as well as other gender groups, and planning the course of action and policymaking accordingly. It is increasingly evident that women are disproportionately impacted by exacerbating climate and water stress. Hence, it is imperative that women’s rights and needs are placed at the heart of water resource management and governance. This is especially important for women in water-stressed and conflict-prone regions, namely sub-Saharan Africa, the Middle East and North Africa, and South Asia, where women in traditional households and rural areas are primary caretakers, whose daily lives are intricately tied to the availability and access to water. In India, for example, women spend up to 4 hours each day walking miles to access water from rivers and wells to meet household needs.<sup>53</sup>

*Globally, women spend almost 200 million hours a day collecting water for household consumption and domestic needs.<sup>54</sup>*

The hours women spend walking tediously long distances in pursuit of water have adverse effects on their health and jeopardize their educational opportunities. Also, women and girls are extremely vulnerable to gender-based violence, abuse, and human trafficking while trekking unsafe distances in pursuit of water. These issues are further compounded for female migrants and refugees who risk their safety and security while using makeshift bathrooms in the campsites and with limited access to clean water and proper health and sanitation facilities.<sup>55</sup>



*Indian women carrying heavy jugs of water on their head while trekking the dessert on a hot day.*

53 United Nations High Commissioner for Human Rights, *The Right to Water Fact Sheet No. 35*, 19.

54 Farley, “How Long Does It Take to Get Water? For Aysha, Eight Hours a Day.”

55 Aamer, “Water Crisis in the MENA Region.”

Additionally, women in the aforementioned regions are important members of the workforce, as they support their husbands, fathers, and brothers in their everyday jobs within the farming, fishing, and cottage industries. In countries like Egypt, Pakistan, Cambodia, India, and Bangladesh, women continue to make significant contributions to agricultural production and thus to the GDP of all these economies.

*Beyond women's contribution to economic growth, women are the unsung heroes of cross-border water politics and peacebuilding efforts.*

For example, in war-torn Yemen, women are on the front lines of the crisis and are heavily involved in the negotiations for water resources, frequently risking their lives while they do so.<sup>56</sup>



*Yemeni women live in the open after being displaced from their homes due to the war in Taiz.*

Addressing the water challenges that are unique to women and young girls and ensuring that they have equitable access to clean water can empower women on several levels and enable them to have more agency within their communities. The time they traditionally devote to water collection activities, for example, could be put towards their education and employment. The empowerment of women within the water sector, however, is not just limited to providing their communities with better access to water. It goes beyond that and on to the roles women can play at the decision-making tables.

The engagement of women as key stakeholders in water-related policymaking and consultations will allow for a more holistic and inclusive process of decision-making with the interest of all parties addressed. Women can bring

<sup>56</sup> Ibid.



their unique perspectives and technical know-how to help build a more resilient and sustainable future for their communities. However, this will require systematic changes and an active commitment to developing greater community outreach and overcoming cultural barriers. Women living in conservative and often-orthodox societies face immense cultural and religious pressures that prevent them from taking part in any consultative processes. A study conducted in Africa concluded that local laws unfairly favor a more patriarchal approach to ownership of natural resources with little room for women to freely own or access resources like water.<sup>57</sup> Additionally, almost 102 countries still favor laws that prevent women from having equal land ownership rights as men and fewer than 50 countries have laws or policies that uphold women's participation in rural sanitation or water resources management.<sup>58 59</sup>

A number of policy and regulatory reforms are thus needed on national, regional, and international scales. One pathway is to approach water governance and management through the lens of the SDGs. While SDG 6 calls for the availability of water and sanitation for all, SDG 5 targets the issue of women's rights and ownership of resources; it encourages governments to *"undertake reforms to give women equal rights to economic resources, as well as access to ownership and control over land and other forms of property, financial services, inheritance, and natural resources, in accordance with national laws."*<sup>60</sup>

*Developing synergies between the two SDG targets, working to build greater access for women to water, and empowering women with the agency to exercise their rights will surely be steps in the right direction and are imperative to the future of water governance.*

Additionally, the existing institutional mechanisms and water frameworks must strive to include all stakeholders, including women and indigenous groups who are affected by water scarcity, and form meaningful and long-term engagements with them. There should be programs focused on training women and young girls with adaptation and resilience-building skills. Countries at local levels should initiate women-focused educational awareness and training programs and at national levels, policymakers should work to remove any structural barriers to develop a more gender-balanced climate change adaptation framework.<sup>61</sup> In Jordan, the government is already dedicating efforts to programs such as Water Wise Women (WWW), designed to train local women, including refugees, to be plumbers. Jordan's water system has notoriously leaky pipelines, which means that ample water is lost before it can make its way to the taps.<sup>62</sup> On transboundary levels, there should be more meaningful participation of women stakeholders in water-related peacekeeping and negotiations. The Women and Water Diplomacy in the Nile (WIN) Network, established by SIWI, is a good example of one such platform for regional members to seek inspiration from and recreate in their respective basins/countries.<sup>63</sup>

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57 Grant, *Gender Equality and Inclusion in Water Resources Management*, 16.

58 Ibid, 15.

59 United Nations, "Water and Gender."

60 United Nations, "Goal 5."

61 Aamer, "Water Crisis in the MENA Region."

62 H2OIQ, "Jordan's Water Wise Women."

63 Stockholm International Water Institute Shared Waters Partnership, "The Women in Water Diplomacy Network in the Nile."

Below are some recommendations on effectively employing gender mainstreaming in water and climate policy discourse:

- Water and climate policies should be designed and implemented with gender-responsive objectives in mind which involve increasing the participation of women in decision-making and leadership roles, promoting gender-inclusive approaches to resource management and access, and complying by SDG 6 to ensure access to clean water for all.
- Pay greater attention to gender-disaggregated data which can be obtained and subsequently utilized to assess the impact of water and climate policies on different gender groups. The data will also reflect existing gaps and room for improvement.
- Empower women through training and education so that they can actively take part in the design, implementation, and monitoring of water and climate policies.
- Identify means to promote more gender-sensitive communication strategies.
- Donors and aid agencies should pay greater attention to gender-based programs and associated funding. They can play an important role in financially incentivizing governments and civil society organizations to allocate resources and efforts for awareness-raising and capacity-building.



*Young girl in Africa transporting water.*

## V. Water-Food-Energy (WFE) Nexus

In the context of transboundary rivers, the WFE nexus is of particular significance because the management of these interlinked sectors is aligned with the management of the shared waters. To understand the nexus better, the UNECE explains the terminology as “water, food, and energy sectors being inextricably linked so that actions in one policy area commonly have impacts on the others, as well as on the ecosystems that natural resources and human activities ultimately depend upon.”<sup>64</sup> The nexus approach received prominence when the 2011 World Economic Forum’s (WEF) Global Risks report flagged water, food, and energy security—and their interdependence—as chronic impediments to economic growth and social stability.<sup>65</sup> Similarly, at the Bonn conference in 2011, the nexus approach received further impetus within global policy discussion and how it is connected to a range of multi-faceted challenges whether of hunger, poverty, and sustainable development.<sup>66</sup>

*Evaluating the nexus approach from the vantage of transboundary rivers in water-stressed regions presents fresh complexities that go beyond just the interdependence between the three sectors.*

South Asia, for example, is a densely populated region that is heavily reliant on its agricultural production to support its economy. In India alone, approximately 70 percent of the population is employed within the agriculture sector.<sup>67</sup> Water plays a key role in much of the region’s agricultural activities. For instance, in Pakistan, the major crops are wheat, rice, cotton, and sugarcane, which are all water-intensive in nature. The agricultural output in Pakistan is thus largely contingent on the availability of water through the Indus River, which provides surface water to an extensive canal network of the basin’s irrigation system. Similarly, in India: in recent years, excessive groundwater usage for irrigation purposes has rapidly depleted the region’s reserves further exacerbating water scarcity issues. In fact, North-west India and Central Pakistan are recognized as global hotspots of groundwater exploitation.<sup>68</sup> It should be noted that sufficient energy is required to operate electrical or diesel pumps to raise water from rivers and canals for irrigation purposes. Water pumping is also estimated to be the largest source of greenhouse gas (GHG) emissions in agriculture.<sup>69</sup>

64 United Nations Economic Commission for Europe, “Water-food-energy-ecosystem nexus.”

65 World Economic Forum, *Global Risks 2011 Sixth Edition: An initiative of the Risk Response Network*, 28.

66 Holger, “Understanding the Nexus, Background Paper for the Bonn 2011 Conference.”

67 Shukla et al., “Creating an ecosystem for increasing water-use efficiency in agriculture,” 10.

68 British Geological Survey, “Sustainable Groundwater Management Underpins Food Security in South Asia.”

69 Reddy, *Climate Resilient Agriculture for Ensuring Food Security*.



*A 180-degree aerial panorama of rice fields in Punjab province of Pakistan*

Living under severe water-stress, especially when each country's economy is excessively dependent on its agricultural future, competition over transboundary rivers becomes more probable. The complex interdependencies of the water-food-energy sectors, combined with increasing population demand and development needs, have driven countries in South Asia to secure the already scarce water resources for their own national interests, which include ambitious plans of tapping into the hydropower potential of the rivers. Often, given the absence of formal water-sharing agreements, these plans come from unilateral decision-making with little or no consultation with downstream neighbors, who run the risk of being impacted either by way of reduced flows or flooding. One example is China's announcement in 2020 to build a 'Super Dam' in the Great Bend area of the Yarlung-Tsangpo/Brahmaputra River.<sup>70</sup> China's plans stoked immediate fears and concerns downstream in India because the proposed dam could have implications on the river flow downstream and consequently on the lives and livelihoods of communities being sustained by the river. The proposed dam is also feared to have potential transboundary environmental and social impacts.



*Women in Agriculture: A female farmer working in the rice field in India.*

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<sup>70</sup> Patranobis, "China to Build a Super Dam on Its Part of Brahmaputra River."

Moving from South Asia to Southeast Asia, the Mekong River is a great example of how the shared water resources form the crux of the water-food-energy nexus in the region. The river's waters enable the Mekong region to be one of the world's largest rice producers and have an extremely productive inland fisheries system. The Lower Mekong Basin has also become a key site for hydropower development in attempts to make the region more energy secure. However, concerns exist in terms of how these dams may have altered the natural flow patterns of Mekong and impacted the river's biodiversity.<sup>71</sup>



*The Pak Mun Dam, constructed on the Mun River, tributary of the Mekong River, in Ubon Ratchathani Province, Thailand.*

The idea of increased resource politics for food and energy security purposes is also visible in Central Asia, where the region's countries tend to view the nexus and its sectors as two different policy areas. In upstream Tajikistan, water is seen as the means to support energy security, while Uzbekistan and Turkmenistan utilize much of the water for agricultural purposes. It is important for the future of the regions' scarce water resources that the countries have a synchronized understanding of the nexus and design policy approaches in a coordinated fashion.

Certainly, there is a pressing lack of a wholesome recognition and implementation of the WFE nexus within transboundary contexts.

*One way to advance the WFE nexus and multi-sectoral connectivity is through RBOs that can provide a platform for countries to discuss water in the context of the basin's food and energy future—taking national and basin-wide interests into perspective.*

<sup>71</sup> Strangio, "Hydropower Dams Have Had 'Profound' Impact on Mekong River, Monitor Claims."

The RBOs can also help mediate negotiations between countries over interventions and infrastructure development, such as dams and reservoirs, on the shared river.

By actively engaging energy and food sectors within transboundary water governance, there is an opportunity to change power dynamics between co-riparians and allow for less politicized and more foresight-based decision-making. WFE nexus can facilitate a more integrated understanding of the connectivity between countries, beyond their shared waters, and empower a benefit-sharing mindset, especially during times of political deadlocks between countries.

## VI. International Hydro-diplomacy Conference Roundup

In the Fall of 2022, the Multinational Development Policy Dialogue of the Konrad-Adenauer-Stiftung (KAS-MDPD), in cooperation with the Stimson Center, hosted a conference on *International Hydro-diplomacy: Building and Strengthening Transboundary Water Governance Institutions – An Effective Tool for Water Conflict Prevention*. The conference, the third iteration in our high-level dialogue series, was held from November 2 to 3, 2022 at the KAS office in Brussels, Belgium. The conference brought together decision-makers, experts, and policy shapers from water-stressed regions—South Asia, Central Asia, the Middle East, and Africa—to discuss and co-design a platform for peer-to-peer exchange, knowledge sharing, and greater dialogue on shared challenges of climate change and intensifying water scarcity across the globe.

The conference commenced with the regional experts, also authors of the regional chapters in the project's 2021 pre-conference study,<sup>72</sup> setting the stage for the broader discussions which unfolded over the course of two days. The experts provided an overview of transboundary water governance within their respective regions/basins and addressed the history of water disputes between co-riparians while dissecting the success and failures of the existing water-sharing treaties and institutional mechanisms. The regional experts further reflected on the role of the donor community and multilateral institutions, such as the EU and the United Nations, in promoting channels of transboundary water cooperation.



From L to R (front): Dr. Dinara Ziganshina, Amb. Tanja Miskova, Mr. Dipak Gyawali, Ms. Karin Jancykova, Dr. Tugba Maden, Dr. Nilanjan Ghosh, Ms. Jacqueline Nyirakamana. From L to R (back): Mr. Kevin Chretien, Mr. Denis Schrey, Dr. Aurelien Dumont, Ms. Farwa Aamer.

<sup>72</sup> Aamer et al., *International Hydro-Diplomacy*.

In a session dedicated to identifying new pathways for global water cooperation and the role of public-private sector partnerships, the panelists and discussants evaluated the key challenges and opportunities in devising water cooperation strategies in an economically and socially feasible manner. They deliberated on the commitments of international institutions like the World Bank and UNESCO in addressing both resource competition and environmental security. The importance of changing mindsets, providing financial incentives, and technological advancements were emphasized by all experts. The conference also highlighted the role of gender in water-based policymaking. Dr. Jenniver Sehring of IHE Delft, Netherlands, shared her brilliant insights on the impact of gender (in)equality on water cooperation. Dr. Sehring emphasized that gender inequalities are deeply entrenched in the norms, institutional arrangements, and what we have come to identify as common practices of water cooperation. Promoting gender equality in water diplomacy or cooperation cannot just be achieved by simply “adding women” to the decision-making spheres. Rather, it beckons a transformational and overall structural change.



Our Women in Water: From L to R: Ms. Tania Pentcheva, Amb. Tanja Miskova, Ms. Farwa Aamer, Dr. Susanne Schmeier, Ms. Karin Jancykova, Dr. Jenniver Sehring, Dr. Dinara Ziganshina, Dr. Tugba Maden, Ms. Jaqueline Nyirakamana

The traditional approach to water management must be refashioned in a way that decision-making breaks away from the existing government silos and assumes a framework which promotes participation and involvement of multiple stakeholders for the successful implementation of water policies on the ground. During a session on the strategic management of transboundary river basins, the discussants and panelists together cogitated on what lies on the road ahead for transboundary river commissions and RBOs. There is strong advocacy for building and strengthening such institutional mechanisms, but it is essential to evaluate the long-term, tangible, and sustainable achievements of such joint institutions in terms accelerating cooperation or promoting peace and stability. A concept that was actively proposed by the discussants was the need for peer-to-peer connectivity through the medium of existing RBOs. There should be greater efforts towards creating a joint portal for varied RBOs and Commissions to engage, interact, and promptly learn from one another for the secure future of transboundary resource governance globally. The discussants also weighed in on how international platforms like the annual Coalition of Parties (COP) and UN2023 Water Conferences can be game changers for transboundary river governance if effectively executed and all proceedings are well evaluated and timely implemented.





*Panelists reflecting on The Strategic Management of Transboundary River Basins*

The discussants also came together for interactive sessions on the tracks of transboundary water cooperation and its linkage to the food and energy sectors. They identified the challenges with, for example, the growing appetite for hydropower development and dam-building in some countries and how co-riparian countries can cooperate to resolve any issues through negotiations and mediation. They agreed that for the future of food and energy security, particularly in water-stressed regions, it is crucial that transboundary water governance is enforced with a benefit-sharing/win-win ideology and that there are strong intellectual and legal foundations developed for implementing cooperative water-sharing norms.



From L to R (Front): Ms. Helge Zetler and Mr. Denis Schrey  
From L to R (Back): Ms. Farwa Aamer and Ms. Karin Jancykova

The conference concluded with the discussants reflecting on the key takeaways and highlights from all the sessions and jointly working to devise a roadmap for EU water diplomacy to help translate the 2018 and 2021 EU Council Conclusions into stronger policies on the ground. They echoed that the humanitarian and security implications of water scarcity require bodies like the EU to expand their diplomatic synergies, leverage their existing positions to become leading voices to invest, incentivize multi-sectoral water cooperation, and respond with applicable solutions when water or climate disasters strike around the globe.



*Discussants engaged in breakout sessions*

## Conference Agenda



### International Hydro-diplomacy

#### *Building and Strengthening Transboundary Water Governance Institutions*

**2 – 3 November 2022**

**Venue:** Konrad Adenauer Stiftung, European Office,  
Avenue de l' Yser / Ijserlaan 11, 1040 Brussels

**Teaser:** The two-day conference will bring together decision-makers, experts, and policy shapers from water-stressed regions who will discuss and co-design a platform for peer-to-peer exchange, knowledge sharing, policy dialogue on shared challenges of climate change and intensifying water scarcity which is already defining the global socio-economic and geopolitical landscapes. Additionally, the conference will also feature authors of the International Hydro-diplomacy pre-conference Study who will present their insights on the current state of transboundary river governance in Central Asia, Himalayas, and the Middle East.

#### Programme

##### Day 1

##### Wednesday, November 2

##### **Theme for Day 1: The Significance of Hydro-diplomacy and Global Cooperation on Water**

**09:00 – 09:10**

##### **Welcome remarks by Organizers**

- Mr. **Denis Schrey**, KAS-Multinational Development Policy Dialogue
- Ms. **Farwa Aamer**, Stimson Center

**09:10 – 10:00**

##### **Keynote 1: International Laws and Cooperation on Shared Rivers**

Remarks:

Ms. **Sonja Koepell**, Secretary of the Water Convention, UNECE  
Q/A session moderated by **Farwa Aamer**, Stimson Center

**10:00 – 10:50**  
conference

**Presentation of the International Hydro-diplomacy pre-**

**Study by Authors**

- Himalayas: Dr. **Nilanjan Ghosh** and Mr. **Dipak Gyawali**
- Central Asia: Dr. **Jenniver Sehring** and Dr. **Dinara Ziganshina**
- Middle East: Dr. **Tugba Maden** and Mr. **Hamza Hasan Shareef**
- Moderated by: **Ms. Farwa Aamer**, Stimson Center

**10:50 - 11:00**

**Coffee Break**

**11:00 - 12:00**

**Parallel Break-out Sessions on Central Asia, Himalayan Region, and Euphrates-Tigris River basin**

\*Each participant is allowed to choose any region of preference and each breakout group will be assigned a facilitator.

**Break-out group members to discuss the following:**

- Past shortcomings and achievements of water governance institutions in the region
- The effectiveness of governance- and decision-making-procedures of institutional frameworks in the region, including a focus on the science-policy-making interface as well as the strengths/limitations of technical institutions

**12:00 – 13:00**

**Networking Lunch**

**13:00 – 14:00**

**Parallel Break-out Sessions to continue**

**Break-out group to discuss the following:**

- EU and International involvement in the past and expectations of regional partners in the region towards the EU and other global stakeholders. Each group should develop three ideas on how to strengthen governance institutions/mechanisms in the region.

**14:00 – 14:20**

**Presentations of the breakout groups and identification of policy recommendations for further institution-building/-improvement**

Session moderated by Ms. **Karin Jancykova**, KAS-MDPD

**14:20 - 14:35**

**Short Coffee Break**

## Session II: Pathways for Global Water Cooperation and Public-Private Partnerships

14:35 - 16:00

### Panel Discussion: Water insecurity: Identifying Pathways for Global Water Cooperation and role for Public-Private Partnerships

- Ms. **Tania Pentcheva**, Senior Manager Government and Industry Relations, Xylem
- Dr. **Jacqueline Tront**, Senior Water Resources Management Specialist, World Bank
- Ambassador **Tanja Miskova**, Ministry of Foreign Affairs, Slovenia
- Moderated by: Dr. **Susanne Schmeier**, Associate Prof. of Water Law and Diplomacy, IHE Delft

16:00 - 16:30

### The impact of Gender (in)equality on Water Cooperation

Remarks: Dr. **Jenniver Sehring**, Senior Lecturer in Water Governance and Diplomacy, IHE Delft

16:30 - 17:00

### Break

17:00 - 18:30

### Networking Dinner

## Day 2

### Thursday, November 3

## Theme for Day 2: Peer-To-Peer Exchange and Greater Dialogue on River Commissions, Climate Action, and Hydro-diplomacy

09:00 -- 09:10

### Overview of Day 2 Sessions and Introduction to Day 3

- Ms. **Farwa Aamer**, Stimson Center
- Ms. **Karin Jancykova**, KAS-MDPD

## Session III: Transboundary River Commissions and RBOs: River Governance and Cooperation on Water-Energy-Food Nexus

09:10 - 10:15

### Opening Panel on *The Strategic Management of Transboundary River Basins to Facilitate Greater Cooperation Between Riparians*

- Dr. **Aurelien Dumont**, Project Officer, UNESCO, Water Sciences Division
- Mrs. **Jacqueline Nyirakamana**, National Focal Point for NBI, Rwanda Ministry of Environment
- Dr. **Susanne Schmeier**, Associate Prof. of Water Law & Diplomacy, IHE Delft
- Dr. **Dinara Ziganshina**, Director, SIC ICWC
- Moderated by Mr. **Dipak Gyawali**, fr. Minister of Water Resources, Nepal

- 10:15 – 11:15**      **Parallel Breakout Tracks:**  
**Track A: Transboundary Cooperation on the Future of Energy Security**  
Facilitator: Mr. **Markus Fischer**, EU Policy Advisor, Orsted  
**Track B: Transboundary Cooperation on the Future of Food Security**  
Facilitator: Ms. **Karin Jancykova**, Programme Manager, KAS-MDPD
- \*Each participant may choose any track of preference
- 11:15 – 11:30**      **Each Track's assigned facilitator to present key findings of the breakout group**
- 11:30 - 12:15**      **Keynote 2: The Critical Role of Water in Climate Action and Policies**  
Remarks: Ms. **Helge Zeitler**, Deputy Head of Unit DG Environment, European Commission  
Q&A session moderated by Mr. **Denis Schrey**, KAS-MDPD
- 12:15 – 13:30**      **Networking Lunch**

#### **Session IV: Road Ahead for EU's Global Climate Action and Hydro-diplomacy**

- 13:30 – 14:30**      **Breakout Groups on *Strengthening EU water diplomacy beyond its borders***
- Participants to break into two groups led by a facilitator each
  - Groups to reflect on Day 2 and 3 takeaways and identify key highlights for EU water diplomacy
  - Groups to devise a roadmap to translate the 2018 and 2021 EU Council Conclusions into stronger policies on the ground, based on the takeaways
  - Groups to consider EU policies/tools necessary for the improvement of transboundary water governance institutions and cooperation?
- 14:30 – 14:45**      **Short Coffee Break**
- 14:45 – 15:45**      **Each Breakout group presents its ideas and work (10 minutes each) followed by a strategic debate on the EU's water diplomacy priorities and blueprint for COP27 and the UN 2023 Water conference**
- 15:45 – 16:00**      **Session summary and conclusion of the conference with next steps.**
- 16:00 – 17:00**      **Closing Reception**  
Venue: **Institute for European Integrity** at Rue d'Arlon 2, Brussels.

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