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Article

Water Diplomacy and Its Strategic Significance for Sustainable Development Goals and Global Security Architecture

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Abstract: This article presents new approaches to water diplomacy connected with the United Nations 2030 Agenda. The research question is what is the role and significance of water diplomacy for Sustainable Development Goals (SDGs) and global security architecture? The paper is based on the theory of interdependence. To illustrate this concept, the author used several case studies to identify the international security role of water diplomacy in the context of SDGs. The case studies point to the greater likelihood that wars in the twenty-first century will be due to freshwater disputes; water diplomacy should be a crucial instrument for the SDGs implementation. Water diplomacy has the potential to become an effective platform for international cooperation in the face of many current and future global water challenges. Water diplomacy combines preventive and reactive measures, as well as the mediation and implementation of solutions. It is crucial for regional and world security. The results of this paper show future research directions on water diplomacy.

Keywords: water diplomacy; global security architecture; sustainable development goals



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1. Introduction

The global system of international relations, built on the European, Westphalian model, has been undergoing fundamental transformations. The era of the fourth industrial revolution brings new challenges and new communication as well as cooperation tools. In this process, there is an increasing interdependence between and among the system participants. At the same time, there is a growing striving for hegemony, especially in the global security architecture. Thus, on the one hand, the issue of international anarchy remained relevant within a system of increasing economic interdependence. On the other hand, populism continued to play a significant role in state-to-state relations. International anarchy emphasizes the acquiring of national power and the building of regional and even world predominance. However, the beginning of the twenty-first century brought events that led to profound changes in the dimension of global security architecture, including environmental challenges and climate change. Both are linked directly with water and security. Moreover, 'the war for resources', or the critical infrastructure use, related to the water supply as a tool for struggle, is becoming increasingly important. Thus, the interdependence, power, and hegemony of water issues directly impact the likelihood of conflict, including armed conflict. According to analyses of the United States National Intelligence Director's Office, water will be the reason for many regional conflicts, the collapse of states, and cause instability in countries of strategic importance to US interests [1].

This article has adopted the research question: what is the role and significance of water diplomacy for Sustainable Development Goals (SDGs) and global security architecture? A hypothesis has been adopted emphasizing that water diplomacy, as a network of cooperation, state, and non-state actors for water, contributes to more effective implementation of the SDGs and increasing peace in the world. Over the concept of water diplomacy in literature, apart from emphasizing its other elements, as indicated by Huntjens et al., there

is common acceptance of the fundamental role of many actors, state and non-state, as well as the importance of their multi-dimensional cooperation [2] (p. 86). Water diplomacy is crucial for the United Nations (UN) Agenda 2030, SDGs implementation, and the global security system. The UN has defined water challenges as one of the most significant global challenges [3]. According to data from the United Nations, over 2 billion people worldwide experience a severe water shortage. As predicted, by 2030, due to the increasing effects of climate change and the lack of sufficient fresh water, there will be large human migrations of up to 700 million. By 2040, 25 percent of children under the age of 18 worldwide will experience an extreme freshwater shortage [4]. Increasing water pollution, including chemicals and solid waste, primarily plastics, is causing many infectious diseases. The consequence is the rapid spread of microbial contamination among people, affecting the entire ecosystem. It will directly impact international security policies and structures.

After the fall of the Cold War and the bipolar world order, a new global security architecture is emerging. It is identified by decentralized tendencies and a complex interdependence between influential transnational actors. This, in turn, leads to the need for effective policy coordination and diplomatic approaches as well as more flexible and facilitating cooperation with many non-state actors, including NGOs, universities, civil societies, and the business sector. Diplomacy tools have been changing in recent years because of interconnected, hybrid, international relations and the need to face current global challenges. In this context, water diplomacy refers to the ways and means in which state and non-state actors cooperate. Water diplomacy includes a myriad of approaches, for example, bilateral, multilateral, science-based solutions, cooperation, and governance [5].

This article calls for a new approach in water diplomacy, presented as part of modern diplomacy—a global interdependence network, working together to promote strategic ties on bilateral, regional, and global challenges related to water. This future world interdependent network includes national diplomatic services, international organizations, local authorities, leaders of social groups, including religious, numerous non-governmental organizations, and entrepreneurs and business leaders. Therefore, this cooperation assumes the adoption of many strategies, projects, and innovative solutions. Water diplomacy prioritizes the issues of reducing economic and political tensions between countries, making efforts to prevent conflicts, and, in the event of their occurrence, solving them effectively. In this reality, multinational corporations will play an increasingly important role. They use water diplomacy to promote new technologies, increase their sales volume, and increase their income. In addition, corporations could be involved in other critically important ways. One example is supporting diplomacy by supporting the processes of the Conference of the Parties, as part of the United Nations Climate Change Conference.

Sustainable Development Goals-related projects are crucial as they address key global, contemporary, and future challenges, largely related to water. Therefore, to achieve these goals, water diplomacy is required. In this sense, this article illustrates water diplomacy with a broader dimension of cooperation, beyond water-specific issues, as a specific contribution to the debate. A fundamental issue for the development of all countries, regions, and the world, including the implementation of SDGs, is peace based on a stable global security structure. However, water has been the source of hundreds of conflicts during this century [6]. The twenty-first century may be characterized by water wars [7] (p. 2). Therefore, many international entities, including international organizations, undertook initiatives to avoid this risk.

The research target is to explore the role and importance of water diplomacy for global challenges, including Sustainable Development Goals. This paper first reviews the literature and documents of the subject. Moreover, the author implemented an appropriate research method based on the complex interdependence concept. Additionally, the research utilized case study methods. Research is limited in scope due to the sample size and geographic area. The case studies focus on the Middle East, Africa, and Asia. The rationale behind this choice is that these regions are most affected by limited access to fresh water, with the consequences of conflicts. Moreover, the study focuses on international

actors involved in multilateral diplomacy within the United Nations, which, with a global purview, adopted the SDGs.

2. Materials, Methods, and Theoretical Background

The author collected research material data in 2018–2021 about water diplomacy projects, events, and strategies. Then, it became the subject of analyses. The researcher examined primary sources as well as the rich literature. The author acquired relevant data from, among others, United Nations, Strategic Foresight Group, Organization for Security and Cooperation in Europe, European Union Institute for Security Studies, Emirates Diplomatic Academy, and Bangladesh Institute of Peace and Security Studies. To investigate the discussed issue and answer the research question, the researcher selected case studies on Asia, the Middle East, North Africa, and the river basins showing immense sensitivity to water-related conflicts. Furthermore, the world's great powers are directly or indirectly involved in these regions and river basins. The author examined various actors, both state and non-state. The researcher analyzed the UN, a global organization that adopted SDGs and engaged in water diplomacy. The adopted case studies are analytical and empirical. Therefore, qualitative methods have been used, aimed at causal explanation and interpretation. The adopted case analysis goal is to find an answer to the research question by investigating the sequence of events, starting from the causes and ending with the observed effect. The concept of power and interdependence was adopted as the key theory. In addition, the author draws on personal experiences in and observations of bilateral and multilateral diplomacy. Thus, the approach presented in this article is novel. Therefore, this research has unique significance for the ongoing discussion on global challenges.

A theoretical apparatus was used to better understand international processes about water diplomacy, the SDGs, and the new global security structure. In addition, this research analyzed numerous government and NGO documents and their initiatives, projects, and commitment to water diplomacy. This article is based on the concept of complex interdependence, investigating the system and international order. It refers to the interdependence of states and other actors on the international stage. Keohane and Nye emphasize the diminishing role and importance of states in shaping foreign policy. In creating a new architecture of international relations, there has been a growing influence of non-state actors, including international organizations with international regimes, NGOs, pressure groups, and transnational corporations. However, the essential conceptual value of complex interdependence is to combine, in the neo-liberalist school, with some elements of realism concerning the anarchic world order, and the recognition of nation-states as the main subjects of international relations and global politics. Thus, this concept combined power politics and economic liberalism while showing that these categories concerning ecological interdependence can lead to competition. In complex interdependence, the role and significance of hard power also are significant. Pressure on a weaker partner, and the other, as readiness for armed conflict, resulted in economic competition and political conflict. For in-depth analysis, the Waltz statements were valuable, among others, such as those that regard anarchy as a 'permanent' force. While Tucker pointed to the inequalities in the distribution of power in the global order. Given the concept of a weaker partner, the hierarchical system of predominance. Thus, Herz, Kissinger, Wolfers, and Aron were appropriate for analyzing hegemony.

3. Case Studies

This section is divided into subheadings. It provides a concise and precise description of the experimental results, their interpretation, as well as the experimental conclusions that can be drawn. The security situation analyses in different regions show that various groups use water hegemony, among others, as a tool of military operations conducted by terrorists. Therefore, the international community must recognize the water's significance for sustainable development and international peace and security [8]. Solutions that address water challenges are a significant element of geopolitical analyses and foreign and security

policies. The Middle East, Africa, and Asia are of increasing importance for emerging global security architecture. The numerous conflicts and military operations in these areas involve major global and regional players. The end of wars and conflict resolution in these parts of the world will not only affect the formation of the new geopolitical system in the region, it will also affect the shape of the new global security architecture. Since 2003, the war in Iraq has been seen as a major change (transition in power) in the weakening of the US position in influencing and shaping the security system, enhancing China's role and significance. Thus, a new political and economic platform for strategic cooperation between the Middle East, African countries, and China is created. This will affect the new global security architecture. Asia also is facing increasingly severe water challenges. Although this continent is home to more than half of the world's population, people lack fresh water. Moreover, the rapid growth of residents in Asia in the coming years will affect the increasing challenge of freshwater access, especially in cities. Also, the effects of climate change contribute to a growing threat. Climate change will lead to, amongst other things, massive migrations of people seeking conditions that enable their survival. Consequently, such a situation will cause tensions and upset political and economic structures. This, in turn, will have an impact on disrupting the current geopolitical image, including the regional security structure. This diagnosis is confirmed, among others, by the US National Intelligence Council's Global Trends 2025 report [1].

3.1. *The Middle East and Africa*

The biggest challenge for water diplomacy and security in the Middle East and Africa is in the Nile, the Jordan, and the Tigris–Euphrates basins. Gleick, a specialist on conflicts over water, demonstrates a connection between environmental challenges and security, including armed conflict [9] (p. 17). Moreover, according to this article's author, in the anarchic nature of international relations, there is a natural hegemony among the countries in the rivers' basins. It occurs because of their different location. This situation is often used by individual countries, providing tensions. Therefore, effective water diplomacy can meet the challenges of water, with climate change affecting international security.

3.1.1. Middle East

Due to the lack of fresh water in many countries of the Middle East, water is linked with state power. Consequently, this natural resource has become the reason for the game of power. Therefore, water diplomacy is especially significant in the Arab region as a strategic tool for sustainability and peace [10]. Cooperation and joint projects on water between Israel and Jordan offer opportunities to reduce the tension level. Noteworthy are new ideas and initiatives to develop a network of collaborative platforms to tackle water challenges. As part of water diplomacy, in April 2012, a high-level group was created to address the water challenges in the Middle East, headed by Prince of Jordan, Hassan Bin Talal. The Jordan River and the Yarmouk River, with their large underground sources, provide transboundary water for Jordan and Israel (Figure 1). In this area, water is essential for both human life and statehood. Each of these countries treated this basin as its own. Therefore, those two countries experienced many conflicts, including military actions.

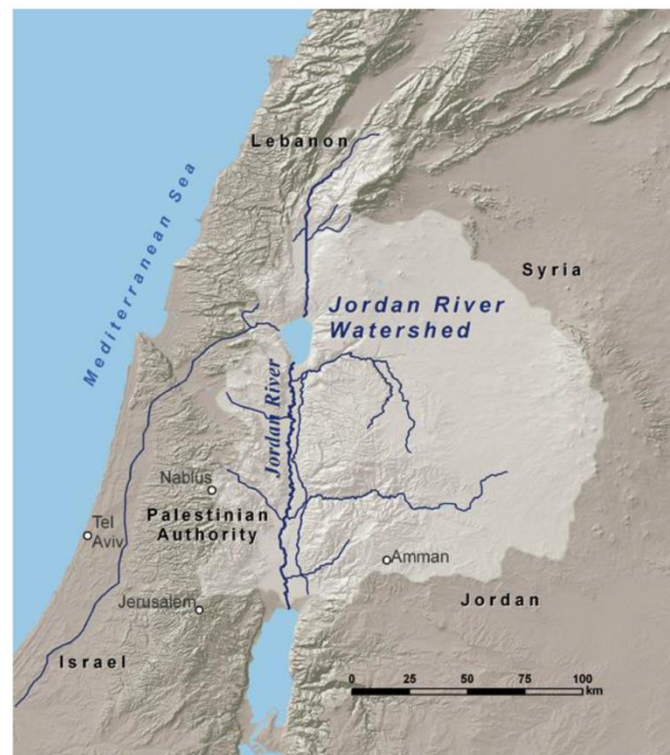


Figure 1. The Jordan River basin (source: Hoff, Bonzi, Joyce, Tielbörger [11] (p. 719)).

The Jordan River basin is one of the oldest subjects of water conflict. Intensification occurred in 1953 when Israel was implementing the National Water Carrier project. As a result, Jordan, Lebanon, and Syria lost control of the Jordan River by changing its course. In the face of growing conflicts, the US, as a hegemon in this region, launched the Johnston Plan in 1955. This aimed to solve this serious problem for the strategic significance of the Middle East. However, this plan did not achieve the intended goal, and the desire to control water, as well as the issue of gaining new elements of geopolitical advantage of each of the participants in the conflict, caused further tensions. The conflict intensified when the National Water Carrier of Israel was completed in 1964, and Syria and Jordan decided to divert the two upper tributaries of the Jordan River (about 35 percent, i.e., Banyas and Hasbani) to the Jarmuk River. These actions contributed to military operations and, consequently, to the Six-Day War, which involved Algeria, Egypt, Iraq, Israel, Jordan, Kuwait, Saudi Arabia, and Syria [12] (pp. 64–65). Between 1948 and 1994, both sides have taken unilateral actions to access water and demonstrate national interests. Many diplomatic efforts have failed [13]. Actions taken by Israel and Jordan have led to water pollution and the devastation of the environment. In 1994, both states signed a peace treaty. Sides agreed on the river basin and water distribution. Nevertheless, Lebanon, Palestine, and Syria, transboundary water countries, were not part of the agreement, and the political tension dynamic was visible [13]. Jordan's water resources are one of the most significant elements of the Middle East conflict. Water may again become a source of clash in the Jordan basin. In these areas, there is dynamic population growth. Moreover, climate change consequences are related to the drastic lowering of the water level and less precipitation. Therefore, the United Nations is engaging its agendas to meet the challenges and SDGs. One example is the support for the signing of the Memorandum of Understanding (MoU) at the World Bank on 9 December 2013 by representatives of Israel, Jordan, and Palestine, to jointly manage the water resources of the Red Sea, Jordan River, and the Sea of Galilee. Co-financing and the possibility of supervising the implementation of such projects by UN institutions may convince the leaders of this region to develop cooperation. The year 2021 shows increased cooperation in the field of water between two countries. It results from,

among other things, the pressure of the United States. Another favorable situation is the establishment of technological cooperation on the water between Israel, Jordan, and the United Arab Emirates.

The two rivers of crucial importance to Iran, Iraq, Syria, and Turkey, are the Tigris and the Euphrates (Figure 2), which are consistently losing their underground sources, as demonstrated by research and analysis of the Strategic Foresight Group (SFG) [14] (p. 147). Therefore, the rivalry for control over the Euphrates and Tigris rivers is growing among Iraq, Syria, and Turkey. The main reason is Turkey's implementation of the Southeastern Anatolia Project (GAP), which restricts water flow to Iraq and Syria [15]. It will be of great importance to the water challenges and impact on conflicts and the regional security structure. It is an enormous project that will enable Turkey to become a hegemon in the Euphrates basin and Tigris River. It will ignite Turkey's subsequent conflicts with Iraq and Syria. Specifically, this project enables water hegemony by allowing Turkey to block the water flow to Syria, which has immediate consequences for Iraqi–Syrian water relations in the Euphrates basin. In turn, in the Tigris basin, Iran has the potential to limit the water flow to Iraq, which also has the potential to develop conflicts [16] (p. 321).

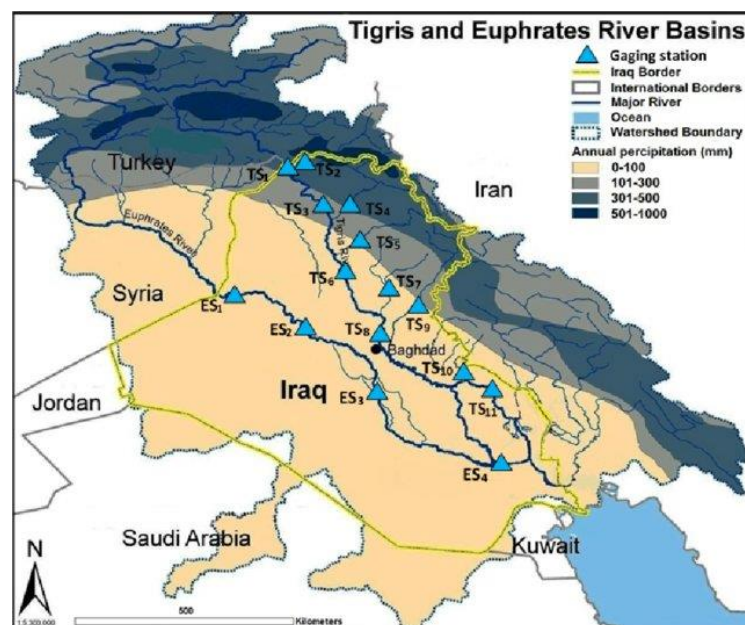


Figure 2. Tigris–Euphrates Rivers basin (source: Issa [17] (p. 424)).

Moreover, during military conflicts in Iraq and Syria and the war on terror, Daesh fighters (ISIS) primarily moved along these two most important Mesopotamia rivers. Water, for Daesh, became one of the primary weapons, and the control of its critical infrastructure, including dams, made it possible for their military operations to succeed. One example is the seizing of the Fallujah Dam in April 2014. Terrorists flooded 300 square kilometers of farmland and villages. As a result, Iraqi forces withdrew, allowing Daesh to take over Fallujah city in Iraq. In 2016, Daesh destroyed a pipe supplying water to eastern Mosul, Iraq. It led to a water loss for half a million inhabitants. In the same year, access to drinking water in Syria fell by 50 percent due to attacks on water systems. Daesh was strongest during the period it controlled critical water infrastructure. The control of the Tabqa Dam in Syria and Mosul Dam in Iraq allowed Daesh to maintain power in its capital in Iraq, Mosul, and its headquarters in Syria, Raqqa [17] (p. 323). Therefore, the SFG's work focuses mainly on the MENA region, and Asia calls for new global security architecture construction based on the peaceful use of water. This group established the Blue Peace Community, with the Prince of Jordan, Hassan Bin Talal, as the chairman, to prevent water conflicts in the Middle East. The SFG calls for appropriate actions to effectively protect dams and water

infrastructure from being used as a war tool. Control of water infrastructure has become an essential element of the strategy of terrorists [18] (p. 3).

On 11 April 2018, a conference was held in Bahrain, focused on water prevention in the MENA region. The Minister of Electricity, and Water Authorities of this country, pointed out that in the Middle East, more than in other world regions, there are conflicts due to water. The minister called on the Gulf Co-operation Council (GCC) to make water one of the most significant areas of the alliance. Therefore, the minister's idea, 'Program of Work for Integrated Management and Sustainable Water Development', adopted by the GCC Secretariat, should be accepted as a significant step towards the effective cooperation mechanism development in this area. In addition, conference participants emphasized that the entire international community should cooperate with each other in the framework of water diplomacy [19] (p. 6).

3.1.2. Africa

The tensions over Nile River water resources are hardly new. Its waters flow through eleven countries: Burundi, Congo, Egypt, Eritrea, Ethiopia, Kenya, Rwanda, Sudan, South Sudan, Tanzania, and Uganda (Figure 3). The Nile River basin supports the lives of 160 million people. Currently, the main actors of the conflict are Egypt, Ethiopia, and Sudan. Egypt is acting as a 'hydro-hegemony' that controls most of the Nile's water resources. Egypt, with Sudan, thanks to its position, managed to divide almost all the Nile. Ethiopia and other equatorial states (even though most of the waters originate in their territories) were omitted when the division was made. Conflicts between Egypt and Sudan over water have a long history. After the Second World War, in 1958, a war took place again.

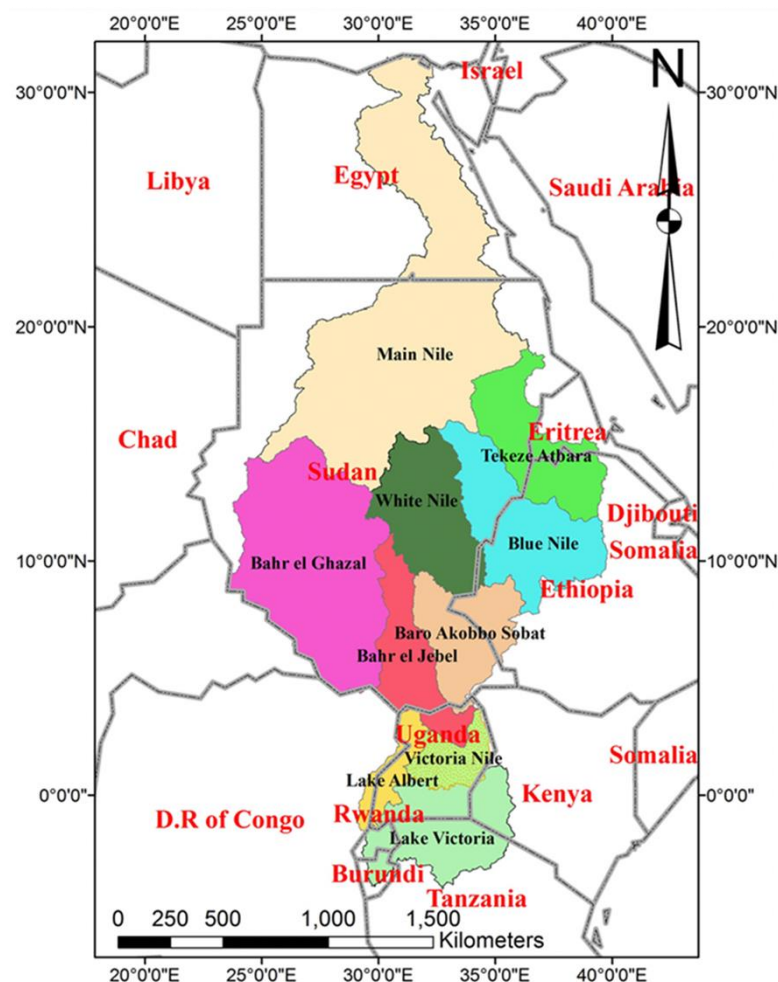


Figure 3. Nile River basin (source: Belete, Deng, Zhou, Wang, You, Hong, Weston [20] (p. 3).

The new global security structure based on the United Nations was unable to prevent it. However, in 1959, the international community led to the signing of the Nile Water Treaty between the military conflict parties. Currently, the clash over the Nile water resources is coming to the fore again. Moreover, 'the Great Ethiopian Revival' Dam (the biggest in Africa) will allow Ethiopia to manage the Nile's water. On 23 March 2015, Egypt, Ethiopia, and Sudan signed declarations regarding cooperation in water resources on the Nile in the context of the construction of the Grand Ethiopian Renaissance Dam. However, as the reservoir filled, tensions emerged between Egypt and Ethiopia. Therefore, in November 2016, negotiations between the two countries began. Then, after the collapse of mediations, Sudan joined as a mediator, to no avail. The crucial point of contention is the individual countries' uses of water flow. Due to the breaking of official talks in October 2019 among Egypt, Ethiopia, and Sudan, the United States became involved in this dispute the following month [21]. However, the mediation of the United States, joined by the European Union and the United Nations, did not bring significant results in the conflict. Therefore, in July 2021, Egypt and Sudan asked the UN Security Council to take up the mega-dam on the Nile. In addition, in September 2021, both countries proposed the establishment of a quartet that would include the European Union, the African Union (AU), the United Nations, and the United States. However, Ethiopia has expressed its readiness to talk only within the AU.

3.1.3. Case Study's Analytical Significance: Summary

The states, international relations basic units, will continue to strive for the power maximization favorable to the hegemonic system. Case study analysis shows that international security must combine peace with climate change and environmental degradation as well as access to water, especially in the Middle East. In this region, water issues are crucial to security. The situations in the Nile, Jordan, Euphrates, and Tiger basins don't only affect the relationships of the major Middle East players. They also impact the global security architecture. Therefore, global water challenges need dynamic relationships and institutional cooperation, and the use of water diplomacy [12] (p. 74). Dynamic relationships and institutional cooperation are essential to solving global water challenges. Water diplomacy provides such an approach and a platform.

3.2. Asia

3.2.1. Himalayan Strategic Triangle (India–China–Nepal) Plus Bangladesh

The Himalayan glaciers are crucial for the rivers of Asia, especially Bangladesh, China, India, and Nepal (Figure 4). In these countries, 1.3 billion people, 20 percent of the global population, live in Himalayan river basins. Roughly 10–20 percent of the Himalayan rivers are fed by glaciers. Climate change will impact those glaciers in ways that will be seen in 2050 [22] (pp. 56–57).

Scientists foresee that for this reason, the Yellow River and the Ganges will lose between 15–30 percent of water by 2050. The Yellow River is the second-longest river in Asia (5464 kilometers), and the sixth-longest in the world. The civilization of ancient China was created along this river. Although the Ganges (2700 kilometers in length) lies within India, more of its vast delta is in Bangladesh. While the Chinese river, the Yangtze, and the Brahmaputra, located in China, India, and Bangladesh, will lose around 7–14 percent of their water. The Yangtze is the longest river in Asia (6380 kilometers), the longest river in the world entirely within one country, and the third-longest in the world. Around 40 percent of China's population lives in the Yangtze basin (Figure 5).

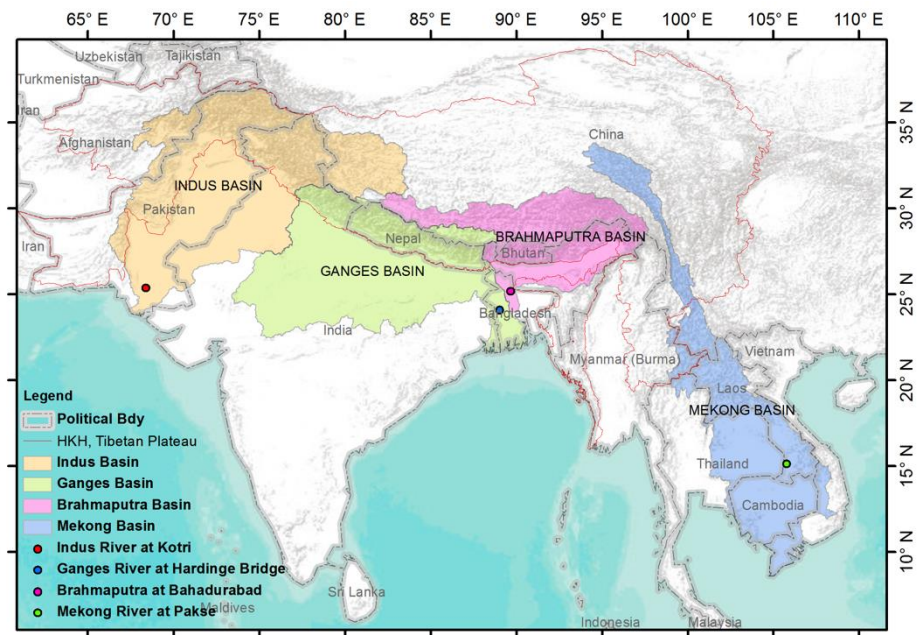


Figure 4. Major South and Southeast Asian river basins (source: Hasson [23] (p. 4)).

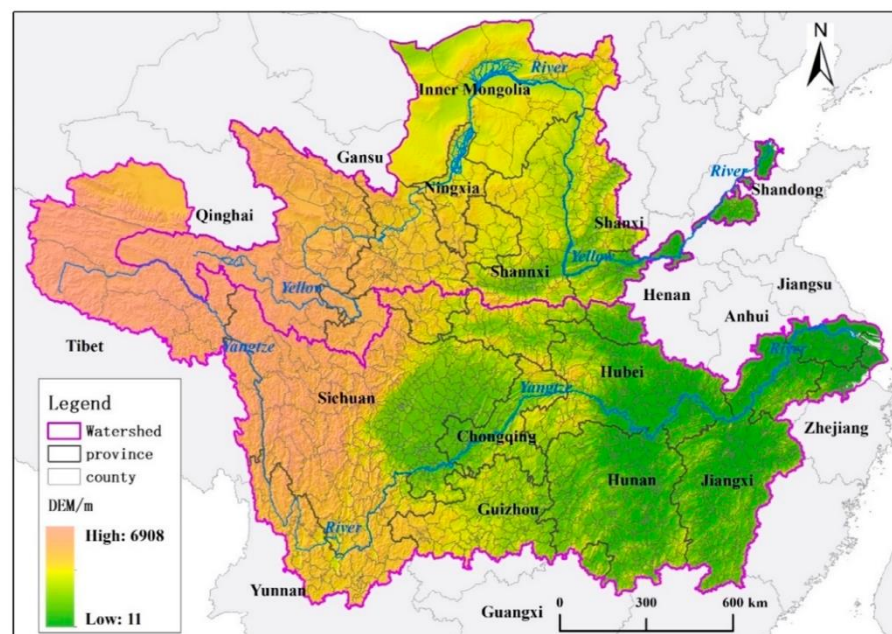


Figure 5. Yellow and Yangtze Rivers basins (source: Wu, Ma, Yang, Zhou, Peng, Wang, Yu [24] (p. 3)).

Additionally, the Yangtze is the most significant Chinese river from an economic point of view, having 75 percent of the nationwide rice harvest [25]. This river is the crucial route for Chinese inland waterway transport, being a significant element of a new economic belt. The Brahmaputra (3848 km) is one of the most important transboundary rivers in Asia. It is a river that comes out of the highest part of the Himalayas and enters the Indian Oceans. In addition, the Brahmaputra and Ganges combine to create the largest delta in the world, covering 80,000 square kilometers. Moreover, tensions between China and India regarding water have a solid foundation in asymmetric interests. India is concerned about China's unilateral actions in the Ganges–Brahmaputra–Meghna (GBM) river basins. Especially regarding the construction of the Zangmu Dam [26]. Another real controversy is about the idea of the partial reversal of the Brahmaputra River course. Experts say that it

will significantly reduce the level of the river on the Indian side. It will affect agriculture, fisheries, and soil salinity level. This concept is a part of an even larger project, the so-called south–north relapse. According to the plan, the Brahmaputra would be one of three rivers whose courses run from the south to the north through the artificial channels. China will take 30 percent of the river waters away from India and Bangladesh [27]. In recent years, there has been a growing tendency in water initiatives to focus solely on national interests.

The construction of huge dams contributes to large migration. By 2050 in Bangladesh, China, India, and Nepal, around 70 million people will be forced to migrate. It will cause social conflict, including that based on ethnic and religious differences [28] (p. 9). This is not a unique challenge that only affects Asia. In other parts of the world, many societies will experience similar water-related migration. According to the Water and Migration: A Global Overview Report, which analyzes the relationship between water and migration, millions of people are in places with potential water crises. Consequently, these crises have the potential to lead to conflict and cause migration. Moreover, coupled with the consequences of climate change, by 2050, more than half of the global population, or some 4.8 billion people, will be exposed to these challenges [29]. Additionally, every year the Indus basin aquifers lose 10 km³ of water. It is almost half the water storage in all the reservoirs in Pakistan, or more than half of India's six large dams in the region.

3.2.2. India–Pakistan Tensions over Water

The causes of the conflict between India and Pakistan for over 70 years are complex. Apart from the territorial issues over Kashmir, one of the reasons is the access to water. Under the Indus Waters Treaty, signed on 19 September 1960 by India and Pakistan with the participation of representatives of the World Bank, access to Indus waters and its tributaries was divided between both sides [30]. Despite subsequent conflicts over Kashmir, the treaty lasted many years, providing access to water for hundreds of millions of people. The challenges are increasing drastically due to the accelerating melting of the Himalayan glaciers. The vast deforestation in Kashmir also contributes to this process. Moreover, the rapid population growth in both countries contributes to the increased demand for electricity obtained from hydroelectric power plants and water for agriculture. At the same time, Pakistan is one of the countries most affected by the water problem.

In many projects, Pakistan is supported by China, including as part of the China–Pakistan Economic Corridor (CPEC), which has been implemented since 2013. Most of them concern the construction of hydropower plants and associated dams. In 2020, both sides concluded a contract for the Kohala hydroelectric project, located in the Pakistan-controlled part of Kashmir. Islamabad calls these lands 'Free Kashmir', while India identifies this region as 'Pakistan-Occupied Kashmir'. In 2020, Pakistan signed an agreement to build another hydropower plant in the same area—in Azad Pattan. Moreover, to construct a dam in the Diamer–Bhasha and Gilgit–Baltistan regions (Figure 6). In response to the announcement of the dam in the Diamer–Bhasha region, New Delhi stressed that Pakistan is making changes to Indian territories that are under its illegal occupation. Pakistan and China rejected these allegations. If CPEC does become a corridor between the PRC and Pakistan, it will have to run through the Gilgit–Baltistan area that India recognizes as its own.

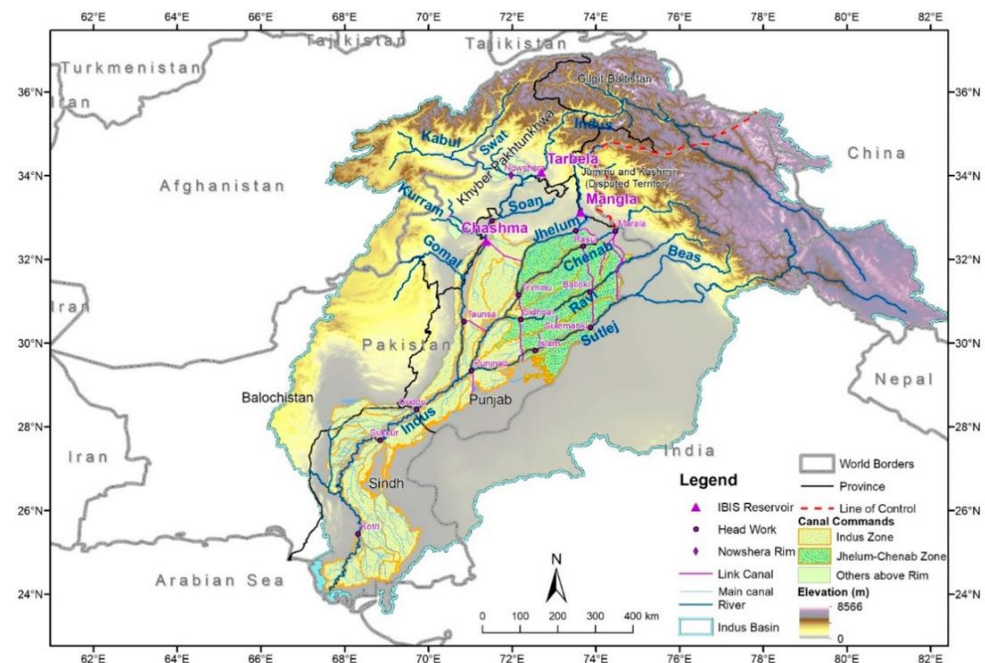


Figure 6. Contested Territories (source: Podger, Ahmad, Yu, Stewart, Shah, Khoro [31] (p. 3)).

Drinking water reserves are declining at an alarming rate, also in India. Environmental migrations are already taking place in many regions of the country. At least 21 cities, including the capital, New Delhi, may run out of groundwater. About 100 million people may have limited access to water. Therefore, India has already built several dozen hydropower plants on the rivers that start in the Indian part of Kashmir and flow to Pakistan. More projects are planned on the rivers Chenab, Jhelum, and Neelum, a tributary of the Indus. Decisions around the dams built by Pakistan will flare up in the coming years. However, India, because of two of these projects, has the possibility of influencing them. The power plants in Kohala and Azad Pattan are to be built on the Jhelum River, whose sources lie in the mountains of India. Thus, New Delhi has the potential to limit the water supply to them [32]. Therefore, the dam on Kishanganga was completed in 2018. Tensions could herald ‘water wars’ between India and Pakistan.

In March 2019, another major escalation of the conflict took place, with the threat of war. India then decided to use its access to water as a ‘weapon’ if necessary. In addition, Indian Mirage 2000 fighters bombed targets in Balakot, Muzaffarabad, and Chakothei, cities in Pakistan. The raid was a response to a suicide terrorist attack in Kashmir in which 40 Indian policemen were killed. The Indian operation was the first raid since the 1971 war beyond the line of control, the border separating the Indian and Pakistani parts of Kashmir. Pakistan responded to India’s actions with airstrikes in the Indian part of Kashmir. A spokesman for the Pakistani army announced the shooting down of two Indian fighters [33].

In 2021, the Intergovernmental Panel on Climate Change published a new report on melting glaciers, emphasizing that Pakistan will be hit first by climate change. The country will run out of water by 2050. Around 75 percent of Pakistan’s 218 million inhabitants live on the banks of the river, and as many as five of the largest cities depend entirely on the river as a water source [34]. Heatwaves regularly kill city dwellers and affect crop cycles and yields. In recent years, Pakistan has experienced devastating floods, including in the capital, Islamabad, and the largest city, Karachi.

3.2.3. Central Asia

Another example of water’s influence on the roles of the states is the situation in Central Asia. Water issues and geopolitical trends also threaten stability in this region. Central Asia is an area where world players compete for 11 percent of the global natural gas

resources. However, the most significant factor influencing conflicts and socio-economic development is access to fresh water. This situation is the consequence of the water management ineffectiveness during the USSR period. Additionally, the lack of modernization of the water infrastructure after the founding of independent states and insufficient cooperation between them. A great example of the neglect effects of both periods is the ecological disaster of the Aral Sea (once the fourth-largest lake in the world), which lost 90 percent of its water (Figure 7).

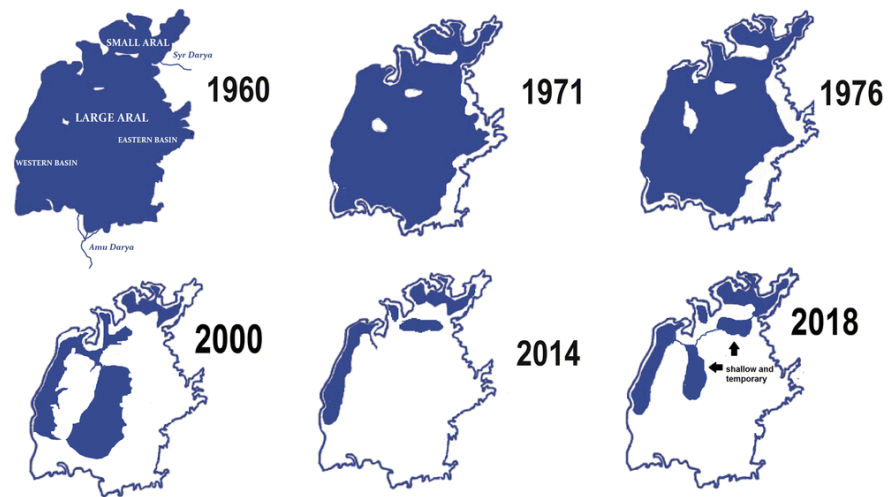


Figure 7. Aral Sea Coastline 1960–2018 (source: Aladin, Gontar, Zhakova, et al. [35] (p. 229)).

Consequently, Turkmenistan currently has water only about 4 percent of the global average of this source. By contrast, Uzbekistan is presently only 9 percent of the world average. Moreover, the forecasts indicate high population growth in this region, which may reach 100 million inhabitants in the next 30 years, an increase from 72 million at present. Kyrgyzstan and Tajikistan, located in the upper reaches of two rivers, the Amu Darya and the Syr Darya, are at a better point (Figure 8). They have a geographic advantage, close to the snowpack and glaciers of the Pamir Mountains.

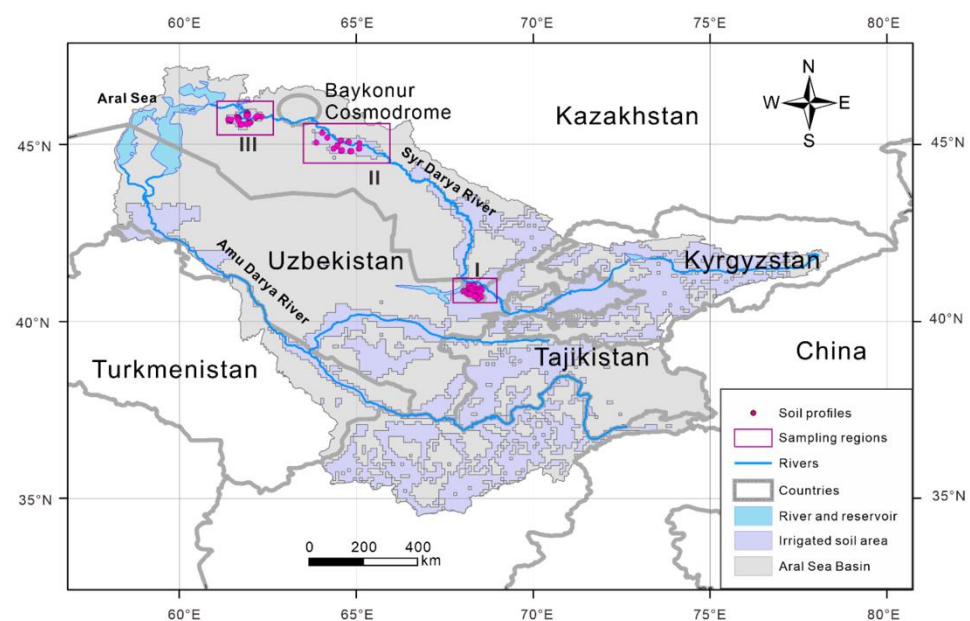


Figure 8. Amu Darya and the Syr Darya Rivers basins. (source: Ma, Abuduwaili, Smanov, Ge, Samarkhanov, Saporov, Issanova [36] (p. 3)).

They are the most important rivers of Central Asia, supplying water to the Aral Sea. However, statistics show that the Pamir–Alai glaciers, which are the primary source of these rivers, lost about 25 percent of their area in the second half of the 20th century. In addition, climate change is forecast to decrease water availability by 25 percent in 2040 [37]. The countries of the region are focusing on short-term national interests. Therefore, Kyrgyzstan and Tajikistan (the upstream countries) have conflicts with Kazakhstan, Turkmenistan, and Uzbekistan (the downstream countries). Moscow wants to coordinate those relations again and to have them under its control of regional waters [38] (pp. 16–17). In these countries, water resources are state property and closely related to the national interest. It makes it challenging to adopt a common strategy for all countries in the region. Therefore, the crucial issue is the international community involvement, using water diplomacy to support transboundary water management [39] (p. 11). One of the ways supporting water diplomacy is the UN Regional Centre for Preventive Diplomacy for Central Asia.

3.2.4. Case Study's Analytical Significance: Summary

The author of this manuscript only partially agrees with Keohane's claim that hegemony contributes to order [40] (p. 31). However, concerning the hydro-hegemony in examined the case studies, it causes tensions. On the other hand, to some extent, the researcher accepts Taliaferro's assumption that the security dilemma is an inevitable feature of anarchy in which geographical proximity and access to raw materials affect security between countries [41] (p. 131). However, the guarantor of security is a state acting under international law as an exponent of the interests of civil society. Moreover, nowadays, more and more people are affected by the consequences of climate change, which are spreading beyond national borders. Specialists and scientists from this region stress that climate challenges have a critical impact on water security in the region. They call for politicians to take joint actions respecting all interests. Otherwise, there is a risk of water conflict [42]. Moreover, the Himalayas are experiencing consequences of climate change, which is caused by, among other things, increasing flood risk, decreasing water availability in many places, and an increasing inability to cultivate plants. For Bangladesh, China, India, Nepal, and Pakistan, one of the priority policies is to ensure that they have enough water, which, in the Himalayas, is dwindling. It could lead to a geopolitical conflict in the region by 2050 [28] (p. 105).

3.3. Global Multilateral Diplomacy: United Nations

Many UN agencies are engaged in water diplomacy, such as the United Nations Environment Programme (UNEP); United Nations Development Programme (UNDP); United Nations Educational, Scientific, and Cultural Organization (UNESCO); World Health Organization (WHO), Food and Agriculture Organization (FAO); and United Nations Industrial Development Organization (UNIDO). These institutions adopted a Comprehensive Assessment of the Freshwater Resources of the World [43]. At the same time, the Global Water Partnership was established, and in 2002 was transformed into an intergovernmental organization called the Global Water Partnership Organization, with a secretariat in Sweden, in Stockholm. The following year, United Nations Water (UN-Water) was set up as a platform for cooperation and coordination between UN agencies and international organizations in the water field. At that time, UNDP; UNESCO; and the World Bank, along with the International Commission for Irrigation and Drainage; the International Union for Conservation of Nature (IUCN); the International Water Association (IWA); AquaFed (International Federation of Private Water Operators); and Suez Lyonnaise des Eaux set up the World Water Council (World Water Council) as an international think tank based in Marseille, France [44] (p. 2). Currently, this cooperation platform includes several hundred members of both government and intergovernmental entities, UN agencies, and the private sector. The World Water Council has been organizing the World Water Forum every three years, the largest global water conference.

The United Nations adopted in 1992 (entered into force in 1996) the Convention on the Protection and Use of Transboundary Watercourses and International Lakes (Water Convention), Resolution the UN General Assembly on 28 July 2010 on the human right to water and sanitation, and Resolution on the Law of Transboundary Aquifers adopted on 11 December 2011. However, the key to the UN convention for matters related to water is the Convention on the Law of Non-navigational Uses of International Watercourses. This international law came into force in 2014, 17 years after its signing. In addition, only 39 out of 193 United Nations members are parties to the convention. Interests may also be redefined through a normative change [45] (p. 749).

In May 2003, the UN and its agencies with the Organization for Security and Cooperation in Europe (OSCE) established a collaborative platform for common global challenges. It combined environmental issues with security under the name the Environment and Security (ENVSEC) [46]. Consequently, since 2014, the OSCE has been increasingly interested in water diplomacy as a crucial tool for building trust, promoting stability and global security, and preventing conflict, including supporting the SDGs [47]. To this end, the United Nations, with the OSCE, treats water diplomacy as a significant element of global coordination and, by undertaking negotiations, limits potential disputes and contributes to their resolution. [48]. The Organization for Security and Cooperation in Europe is the world's largest regional security organization, with 57 members from North America, Europe, and Asia.

In 2016, the United Nations Security Council, for the first time, organized a conference on 'water, peace, and security', with 69 representatives of states participating in the discussion. The UN Secretary, General Ban Ki-Moon, pointed out that peaceful water relations are a fundamental, strategic condition for world peace and security. At the same time, the Secretary-General presented Syria and Gaza as an example, where the destruction of water infrastructure resulted in armed conflicts [49]. Moreover, from the United Nations' point of view, international community activities, including water diplomacy, must implement the SDGs [50].

4. Results

The study results have been identified based on the conducted qualitative research using case studies. It considers the specific geopolitical context of the research areas in terms of challenges related to water, their impact on international security, and diplomacy as a tool for finding a win-win solution. The case studies selected as samples in this qualitative study have been chosen to provide as much information as possible from different points of view. As a result, they made it possible to interpret reality and predict future potential processes.

4.1. Water Diplomacy's Potential Impact

The findings from the first case study demonstrate that the most critical war on terror has been in the Tigris and Euphrates basins, and in Syria and Iraq, water has been used as a weapon in the fighting. They demonstrate the need to engage in water diplomacy. Another case study describes the melting of glaciers in the Himalayas, drastically reducing the water of the ten largest rivers in Asia and increasing pollution. This situation has a direct impact on the billion people living in this region. Clear evidence and validation description of the obtained results are provided in Section 3 of this research paper.

The current global order experiences a falling of the current balance of power and emerging new global security architecture. Therefore, the world needs water diplomacy, active at all levels of inter-aisle structures and societies activity, launching innovative solutions and economic projects to jointly deal with global challenges that are fundamental to the world security structure. In this sense, water diplomacy also has an impact on the implementation of the SDGs. Water diplomacy has the chance to create a new culture of world partnership, which is an efficient global platform connected by numerous elements of a network of various entities and leaders improving the model of global management.

To solve conflicts over shared water resources, water diplomacy should encompass both global and regional activities. Water is the foundation of world peace. Based on broadly developed multilateralism, leadership is also required, which includes the constellation of national interests in the face of universal global challenges. However, the current, and, to a greater extent, the future global order will be increasingly complicated, with an enormous number of international players and interdependencies. Moreover, there will be more aggressive competition at various levels of international relations. At the same time, the current global security structure has been regionalized and dispersed, with an increasing emphasis on the pursuit of national interests. At present, water diplomacy, involving many actors, has not yet created efficient cooperative tools. In addition, the current international relations are more characterized by ignoring multilateral cooperation. Thus, the emerging new global security architecture will be shaped by complex new unstable spheres of influence and chaos. At the same time, global security architecture will be anarchic, with regional hegemony, including transboundary water resource management.

4.2. The Lack of Effective “Mechanisms” and State Role

The third case study shows that, despite many UN agencies being active in water diplomacy, the effectiveness of its engagement in peaceful solutions to water-related conflicts is limited. Due to interrelationships and interdependencies, the SDGs related to water challenges require a flexible approach. Therefore, the Water Diplomacy Framework could be a significant world element supporting the UN Agenda 2030 implementation by individual countries and affect the new global security structure [51] (p. 75). In this context, the fundamental thing to understand is that all UN member states constitute this organization. They are primarily responsible for the success of the programs and initiatives adopted by it. However, although there are many projects related to water diplomacy and promises from politicians, there is still a lack of effective consultation mechanisms and powerful activities. There are many pieces of evidence, among others, in the Tigris–Euphrates basin or conflicts over Nile water resources. International organizations, which are fundamental to water diplomacy, lose their effectiveness. International law is unable to keep up with contemporary challenges. The UN conventions and resolutions on water presented in the case study demonstrate this.

Moreover, these research results show that the concept of a hydro-political security complex requires refinement. In this context, it is worth further researching anarchic structures with national interests. International relations experience the global challenges of interdependence, the enormous dynamics of change, and difficulties predicting new dynamics. Therefore, there is a need for flexible water diplomacy capable of effective political interactions at all levels. In addition, this interdependence requires a comprehensive and strategic approach to common challenges. However, at the same time, presented research findings in this manuscript demonstrate the role and significance of the state as a condition for the effectiveness of water diplomacy on regional and global levels.

4.3. Emerging Global Security Architecture

The anarchic system of international relations offers a complex interdependence in which the hierarchy occurs. Water challenges facing modern diplomacy reveal hegemony in a multilevel global interdependence network. Water diplomacy without coordination and far-reaching strategy cannot be fully effective for facing water-related challenges. One of the significant concepts of international relations is the complex interdependence that assumes that anarchy is the unchanging principle of the international order and is also a variable in the distribution of states' capacities. Case studies prove that water diplomacy is an example of the complex interdependence concept application. The global water challenges show that the emerging world security architecture will be dominated by hierarchies and hegemony, in anarchy and interdependence. In the Middle East and Africa climates, the small amounts of freshwater cause tensions and conflicts between countries. They want to gain control over this valuable resource. Therefore, some countries have

undertaken activities related to the construction of dams and canals. This situation will exacerbate conflicts, causing serious challenges to international security. In this sense, the SDGs require effective coordinated water diplomacy. Consequently, it will contribute to building a global security architecture based on more and more collaborative platforms.

The case studies underline that many international entities' strategies and geopolitics influence growing global challenges related to water. This situation will have a critical role in the new world security structure. Based on the research carried out, applying the concept of complex independence, the author proposes a new interpretation of it, concerning water diplomacy. Hydro-politics, led by water diplomacy, considering geopolitics, influences the anarchic structures of international relations through a cooperation network with state and non-state actors. Moreover, in the current international changes' dynamics, the state's role as an exponent of national interests must be preserved. Only in this way is there a chance to meet global challenges and strengthen world security.

5. Discussion

The obtained research results were subject to interpretation and discussion with the other authors' studies. It is necessary to point to Yıldız, who stresses the water's role and importance in a broad and deep perspective [52] (p. 4). The author of this manuscript proposes to recognize the deeper role of water as an opportunity to build a global collaborative platform. As one of its crucial elements, water is a part of the peace process. It is a critical issue as the lack of cooperation in the sharing of water resources in many places around the world causes hydro-hegemony. Additionally, another challenge is the growing tensions between international organizations and national interests. In these processes, water diplomacy emerges as a tool to meet these challenges and provide a comprehensive approach to international security.

5.1. Sustainable Development Goals

The author of the presented manuscript analyzed the SDGs' roles and significance for multilateral diplomacy [53] (p. 47). The results indicate the fundamental significance of the diplomacy employed in SDGs, including water diplomacy for the country's brand growth [54]. As emphasized by Salmoral et al., water diplomacy is key to achieving SDGs. However, it still faces massive challenges in its implementation due to various political and economic interests. Therefore, water diplomacy needs to overcome the limitation of many entities due to its concentration on short-term interests. Moreover, there are often questionable negotiation results, a lack of transparency, and limited access to reliable information [2] (p. 94). As Noaman points out, the world needs multi-faceted and holistic solutions because of the interdependence between water quantity and water quality [51] (pp. 6, 8).

A significant element of the water diplomacy discussion is the Strategy for Sustainable Peace 2017–2022, developed by the Swedish Agency for International Development Cooperation (SIDA) [55]. Referring to this, Ravnborg emphasizes that according to her predictions, water issues will attract more joint projects and cooperation than conflicts, except in the MENA region [56] (pp. 19–20). Therefore, Susskind, as well as Islam, points out the need for both a Water Diplomacy Framework (WDF) and a Water Diplomacy Network (WDN) [13]. Expanding this issue, Schulz proposed to combine the rivers issue as an element of national security, with geopolitics as part of the concept of a hydro-political security complex [57] (pp. 91–122).

Referring to the discussion, the research results show that water diplomacy meets the Sustainable Development Goals. As a global platform for cooperation, water diplomacy, embracing both state and non-state actors, can not only provide an effective instrument for the 2030 perspective, but, beyond this year, it will become a permanent and dynamic global structure for cooperation in response to climate change.

5.2. International Security

As Ikenberry emphasizes, there is now a ‘crisis of transformation’, in which the current world liberal order, at the top of which the US would gradually erode, and new global architecture has not yet shaped [58]. The author of this research analyzed the importance of water for military conflicts. The research findings show the necessity to conduct water diplomacy in preventing conflicts, including armed ones [16]. The reasons for the tensions that grow into armed conflicts are often social inequalities and extreme poverty. Huntjens and de Man Rens underline that the main obstacle to maintaining or restoring peace in many places around the world is the issue of lack of readiness to cooperate in shared water resources [59] (p. 10). However, Cuppari identifies tensions in finding a solution in crises over water between international organizations and national interests [60]. Moreover, Kjellén adds that this kind of tension in the emerging global order will grow [61] (p. 110). Therefore, specialists working for Strategic Foresight Group (SFG) underline that water is in many cases an inseparable element of peace processes and a part of building partnership [62]. FSG, founded in 2002, is a think tank that operates in dozens of countries on four continents. Its main area of activity is water diplomacy and international security, including those relating to global challenges.

Wolf demonstrates the global tensions related to water [44] (p. 34). Analyzing the objectives of water diplomacy in the context of world peace, Molnar et al. point to four interconnected processes—first, reconciliation, second, integrated prevention to promote peace, third, prevention and conflict resolution, and fourth, to promote peace, security, and stability. Moreover, the goal of water diplomacy is security [63]. Tignino also emphasizes that the growing shortage of freshwater can be the cause of wars. In addition, a researcher foresees a consistent reduction in freshwater availability in the Middle East and North Africa (MENA) region [64] (p. 649). As emphasized by Turton et al., the Euphrates, Jordan, Nile, and Tigris, which in the MENA region are the basic sources of fresh water, are of fundamental importance for the strategic development of countries located in their basins and societies [65] (p. 24).

Kupchan and Kupchan emphasize that collective security organizations are irrelevant. Moreover, they are also dangerous because states place inconsistent hope in collective security. Therefore, basing on their own national resources development in an anarchist system may increase the state’s security [66] (p. 60).

Due to climate change, there is a drastic reduction in the amount of fresh water on earth. Access to this raw material is becoming a more and more prioritized goal of the security policies of many countries around the world. Therefore, one must agree that access to drinking water is a source of war. However, this challenge can also inspire closer cooperation, thanks to effective and active water diplomacy. Thus, water diplomacy will contribute to a more secure world.

5.3. Global Security Architecture: Hydro-Hegemony or Anarchy?

It is significant to identify hydro-hegemony. Menga recognizes this in the same way as the definition of classical hegemony—the dominant position over others [67] (p. 418). Tucker draws attention to the inequalities in power and the power distribution, which contribute to the international order and global security [68]. On the other hand, Waltz points out the exceptional responsibilities of great powers and their various functions resulting from them due to the diversity of societies [69] (p. 198). Therefore, the US is also active in water diplomacy and thus influences the new global security architecture [70] (p. 2). As Lake emphasizes, the envisaged system is a global hierarchy dominated by great powers, in which weaker states even sacrifice sovereignty to obtain security guarantees [71] (p. 110). Moreover, the international system is not fully anarchic. Additionally, he argues that relations between major powers, international institutions, and states are much more complex than neo-realists proclaim [72] (p. 159). Booth argues that anarchy is the best solution to current global challenges and ensures peace and security [73] (p. 540). Moreover, the same author proposes ‘emancipation’ as a fundamental concept relating to security, with

simultaneously inseparable elements ensuring stable security. Emancipation means freeing people from war, poverty, and oppression, offering education and freedom. To face global challenges, he proposes an anarchic global 'community of communities' that should support the founding of a stable global security architecture with emancipation as more important than power and order [73] (p. 539).

Hussein, Menga, and Greco examined SDG 6 (clean water and sanitation); 5 (gender equality); and 2 (zero hunger). Their research confirms that there are international agreements regarding water management in which a hegemonic system is visible. Therefore, they propose to reduce such contracts. Moreover, they also call for broad and deep cooperation between NGOs. However, its effectiveness can be ensured by civil society [74] (p. 7). According to this research author, different active local communities working together to face the water challenges, will provide the foundation for defining national interests and a global platform for cooperation. Despite the hegemonic system, citizens working together within NGOs increase the role of water diplomacy in conflict prevention. At the same time, it contributes to the more effective implementation of the Sustainable Development Goals.

To ensure access to ever more valuable fresh water, states will strive even more to maximize power, seeking a hegemonic position, hydro-hegemony. It will have an impact on international security, both at the regional and global levels. However, water diplomacy, representing a comprehensive approach to security, can shape the global security architecture, reducing the number of military conflicts. It provides a multi-level and multi-faceted dimension and covers a wide range of actors, including active civil societies. Moreover, water diplomacy will address many aspects in the broad sense of security.

6. Conclusions

There is insufficient literature related to water diplomacy in the context of the new future global security structure. Many studies focus on water diplomacy and SDGs. However, there is a lack of research on these issues linked with the emerging new security architecture. Therefore, this article is a contribution to fill such a gap. The answer to the stated research question underlines that water diplomacy influences global security architecture. However, a condition for its effectiveness is engagement between not only international entities but primarily nation-states and global great superpowers. The findings are added value for the audience of the presented research. These research results will be valuable for researchers, actors, and participants of international relations. The conducted research shows that the presented hypothesis has been confirmed. However, without the will of state actors, it will be almost impossible to be effective in implementing the SDGs and creating more peace in the world. The action of the United Nations will also be more effective with the support of its member states. In this way, the United Nations will receive real legitimacy to influence the world. Thus, the UN water diplomacy, with numerous agencies and funds, has a great opportunity to influence the Middle East, Africa, and Asia in implementing the SDGs and contributing to world peace.

Fresh water will be increasingly affected coupled with population growth and climate change, contributing to international conflicts. In armed conflicts that are already underway, water infrastructure is a crucial element of ongoing military operations. At the same time, the world is witnessing enormous dynamics in global relations with the complex constellation of power and interests. Moreover, increasingly, the current international relations are based on a world network of connections and interdependencies. In addition, a present world order structure meets the aggressive implementation of national interests and new influence spheres. On the one hand, the world can observe a novel balance of power appearing, on the other hand, this system shows enormous instability. This, in turn, causes growing tensions and an increase in political, economic, and military conflicts. Therefore, for modern diplomacy, including water diplomacy, the new world security architecture is one of the most serious tasks.

The presented findings of this research are significant to a global audience. However, due to the requirements of the length of the text, the study was limited to selected inter-

national entities. As a result, the topic under discussion lacks an in-depth analysis of a broader circle of actors in international relations, such as NGOs, that play a significant role in water diplomacy. In addition, linkages of non-governmental initiatives with national governments and multinational corporations are crucial issues to be explored. Consequently, an interesting point for further research of the discussed topic should be related to transnational business groups' influence on SDGs and water diplomacy effectiveness. Additionally, the two global great powers, the US and China, change strategies related to climate changes, and the Sustainable Development Goals are the new inspiration for worldwide researchers. Taking this crucial topic, they can provide novel contributions in the field of academic and professional endeavors.

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