



Available Online at EScience Press

Journal of South Asian Studies

ISSN: 2307-4000 (Online), 2308-7846 (Print)

<https://esciencepress.net/journals/JSAS>

Water Security in Bangladesh: A Case of the China-Bangladesh Teesta Project

Anup Kumar Saha*Department of International Relations, South Asian University, New Delhi, India.***Corresponding Author Email ID: anupkumarsaha08@gmail.com*

ABSTRACT

Water security is a fairly new concept in the field of security studies. The global water crisis and human vulnerability as a result of water shortages have heightened the utility of the concept of water security. The Teesta River in Bangladesh has been experiencing water shortages over many years, water security has remained elusive. Recently, China has attempted to resolve the Teesta River water crisis in collaboration with Bangladesh in order to meet its water security challenges. This study attempts to examine the efficacy of the China-led Teesta project on the Teesta River in Bangladesh from the lens of water security.

Keywords: Water security, Teesta River, China-Bangladesh, Teesta project.

INTRODUCTION

Water is the most vulnerable resource in the South Asian region. South Asia is home to approximately a quarter of the world's population and only 5% of the globe's renewable water resources. As one of the world's most dynamic regions, with 1.9 billion people, water scarcity has become a vital and contentious issue. Among them, water scarcity affects around 270 million people in the South Asian region (Albinia, 2020).

The life-giving major rivers in South Asia can flood during the rainy season, bringing devastation and death and impacting the river basin communities' survival. However, given the transboundary character of water resources, the gap between supply and demand becomes a challenge. Because, in certain forms, South Asian transboundary water resources have already been a politically driven attribute of the region's interregional relations, with states inspecting these shared scarce water resources through the prism of a zero-sum national question and advancing water policies that merely serve their national interests (White, 2019). For example, the dam-building project advances the interests of the upper riparian at the cost of the lower riparian.

Besides this, the Teesta, which is still under negotiation between India and Bangladesh, is a crucial transboundary river and communities in the Teesta River Basin are

extremely vulnerable owing to a lack of water, which poses a risk to their daily lives and survival. This study focuses on the larger theme of water security. An attempt is undertaken to analyze it with respect to the grand plan of China to implement a water project in Bangladesh. Against this backdrop, this article will assess discourses around water security in Bangladesh and analyze in what ways the project will facilitate the water security needs of Bangladesh. Alternatively, the article also hopes to understand the role of water in understanding China-Bangladesh relations.

WATER SECURITY: A CONCEPTUAL FRAMEWORK WATER SECURITY- PERSPECTIVES

The term water security has extensively been used to explain the linkages between water and national security. One can also say it has its origins in the 1940s in postwar diplomacy when former colonial powers were redrawing their political borders (Hall, 2014: p. 613). For instance, the UNESCO-Institute Water Education has highlighted the safety of vincible water systems and water-prone calamities like as floods and drought, as well as the management of water resources development and secure distribution of water support and maintenance by introducing and advocating technical and functional aspects of water safety. The US Environmental Protection

Agency defines water security from the national interest perspective in which water security means to be prevented and protected against contamination and terrorism linked to homeland security concerns. For example, the US federal law has marked drinking water infrastructure as the basis of homeland security. Gleick also gives primacy to the state and notes water security as a pre-emptive measure so that water conflicts can be avoided. Water conflicts, as he argues, can be a danger to world security and peace (Gleick, 1993: 84). Thus, ensuring the security of drinkable water and drinking water infrastructure, water engineers had exhibited a perception of water security as “guns, gates, and guards” for protection against water-related adversaries such as hazards, vulnerable water systems, contamination, terrorism (Bakker, 2012: 97).

Water Security was linked explicitly to human security in the 1990s. The integrative definition of water security focused on water needs, where the affordability of water was highlighted. Different conferences held under the framework of the UN focused on how individuals can have access to water-related facilities including, sanitation, the standard of living, livelihood, and clean and safe drinking water in their economic, social, and cultural activities for protecting and sustaining the environment by considering water as human rights. For example, the International Conference on Water and Sustainable Development in Dublin, the United Nations Conference on Environment and Development in Rio de Janeiro, and the United Nations International Conference on Population and Development.

DISCIPLINARY DEBATES ON WATER SECURITY

Water was introduced into security studies as it was a threat to both national and human security. Thapliyal notes that water insecurities not only threaten people's lives, and the political security of the country, but also lead to conflict between states (Thapliyal, 2011: 23-25). In the discipline of International Relations, the debate on water security started broadening with developments in security studies, when Barry Buzan attempted to broaden the definition of security. Water entered the realm of security studies when it was seen as having an impact on people's lives and survival, the country's political security, or beckoning conflicts between countries at the expense of peace and stability, all of which have an impact on a country's economic, social, political, and environmental security. At that time, water was included

in the security discourse by environmental security. Accordingly, when water becomes a dwindling natural resource with potential threat multiplier consequences in times of climate change it becomes an important variable in understanding security. In terms of widening the notions of security, the Copenhagen school includes ecological, penury, as well as humanitarian concerns on the national safety agenda (McDonald, 2008: 68).

Alternatively, water security has also been looked at from a human development perspective. Ken Booth, the most renowned theorist of security studies' "Welsh School," framed emancipation as "the philosophy, theory, and politics of inventing humanity" (Booth, 2007, 112). In practice, security equates to emancipation when it meets the needs of people to be free of arbitrary systems that restrict them from living their lives as they would like. It emphasizes the needs of the vulnerable and rights, with the goal of achieving or preserving security without denying it to others (Harrington, 2014: 29-30). As a result, emancipatory water security refers to the process of achieving a good standard of living by protecting marginalized communities against systemic oppressions produced by governmental, socioeconomic, and ecological barriers to adequate water supply. Therefore, it assures that achieving water security does not deprive others or degrade affected ecosystems, considering water security in terms of fundamental human rights.

Cook and Bakker analyze how the concept of water security has been defined across multiple disciplines and reflect on how water security has benefitted through such analysis. Grey and Sadoff proposed a definition of water security – "water as a source of production and destruction", concerning water's destructive impact. Water security is considered as "the availability of adequate quantity and quality of water for health, livelihood, ecosystems, and productivity, as well as an acceptable level of water-related hazards to people, economies, and the environment" (Manthrilake, 2012: 77); (Sadoff, 2007: 547-548). At the same time, the Organization for Economic Cooperation and Development defined Water security as the measure to keep water risk at a manageable level. For example, scarcity, excess, poor quality, and weakened resistance (Hall, 2014: 615). Swaminathan raises questions related to sustainability and notes that water security entails the "perpetual availability of water in sufficient quantity and quality to fulfill residential, agricultural, industrial, and ecological demands" (Manthrilake, 2012: 77).

CRITICAL WATER SECURITY

In critical security studies, Cameron Harrington defined emancipatory water security as the development of "inclusion", "communication", and "cosmopolitanism" in reference to emancipation. Thus, water in a critical approach examines a broad spectrum of connections between individuals and communities concerning water resources, whereas traditional approaches fixate on state and system-level dialogues, which have been incompatible with determining the potential and current consequences of water shortages on individuals and communities. Since individuals' safety and instability are inextricably linked to their availability of water supplies, the critical theme of emancipation can be positioned as a critique of existing, dominant security discourses.

Thus, water security in agriculture, engineering, environmental science, environmental studies, Fisheries, geology/geosciences, hydrology, and public health have been directed toward accessing water in terms of quantity and quality for people and the planet (Bakker, 2012: 96). As a result of these developments, water security has been taken up by scholars and policymakers. For instance, the Global Water Partnership (GWP), United Nations Water, International Water Management Institute (IWMI), etc., have informed the meaning of water security through an integrative and interdisciplinary approach.

WATER SECURITY: THE SUPPLY SIDE

Water security has indeed been brought to the government's policy platform, focusing on people and the environment (PTI, 2004: nd). In recent years, an important development regarding water security is the supply dimension associated with water security. For instance, the outcomes of the Global Water Security and Sanitation Partnership's (GWSP) annual report for 2021, which covered water supply and sanitation, water resources and management, and water in agriculture by assisting governments in policy, institutions, and regulations, by assisting utilities for better conditions to mitigate the crisis, and by fostering sanitation solutions and better management approaches, focusing on health, livelihood, ecosystem, production, people, environment, and economics, allowing for water-related risk reduction and acceptable quantity and quality of water, by ensuring effective supply options (Delay, 2021: 11-67). Jayanta Banyopadhyay concentrated on water flows, presenting a holistic understanding of water supply through the WEBS

approach based on water, energy, biodiversity, and sediment for a synergy-based perspective that emphasized human needs (Bandyopadhyay, 2009: 1).

'Securing a population' is the key objective of water security. The risk associated with water security is that security is taken into account and how water security is being defined. Rather than protecting 'our' borders and fueling conflict over a scarce resource, we pay attention and try to ensure safe, secure access for 'other' vulnerable populations (Loftus, 2015: 351).

Thus, water security means ensuring safe access to water resources not only within and beyond boundaries but also the boundaries created in society, where the vulnerable and marginalized are often ignored.

WATER SECURITY IN SOUTH ASIA

South Asia has witnessed tensions on account of the sharing of the transboundary rivers. For this reason, water scarcity in South Asia may appear to be an unfortunate and paradoxical situation, given that the Himalayan and Hindu Kush Mountain ranges, which separate this region from the rest of Asia, have large freshwater aquifers. Transboundary basins and watercourses are present in several of these perennial South Asian rivers.

In critical perspectives, water security is inextricably tied to concerns of balancing socioeconomic, food, and health security. Food security, economic security, health security, and ecological security are among the non-traditional security problems posed by river water. As a result of the influence of water diversion projects and irrigation, these issues of security have put the riparian nations in danger. A large number of dam-related multifunctional projects have become security threats. For example, the upper riparian state's dam-related projects in China are the most serious risks to human life and livelihood, as well as environmental security in India. The upper riparian dam can contain water, which causes major water shortages, and it can also discharge water, which causes floods in the lower riparian. In fact, the direct impact of floods and water shortages or crises results in a large number of human deaths as well as landlessness and homelessness. On the other hand, being the lower riparian state of nations like Pakistan and Bangladesh, India should be aware of non-traditional security risks for example, food, agriculture, and environmental security that are determined by water and its availability. Human migration from Bangladesh has

been an issue affecting human livelihood in various regions of India owing to water shortage or flooding in Bangladesh's territory (Basumatary, 2021: nd). Bangladeshi environmental refugees who live beside rivers or rely on them for their livelihoods are fleeing to neighboring countries, particularly India's Assam region (Gugoff, 2011: nd). Water security is a matter of concern when it becomes a state-national security challenge. So, prioritizing human-related development concerns by securing human needs, considering food security and safe access to water should define water security. The Water and Climate Resilience Programme (WACREP) is collaborating with SAARC, the SAARC Disaster Management Centre (SAARC DMC), the South Asia Cooperative Environment Programme (SACEP), the Asia Pacific Adaptation Network (APAN), and the United Nations Development Programme (UNDP) on activities like identifying solutions, investing, building knowledge and capacity, and operationalizing the GWP network with strategic allies. It also contributes to the Global Water Partnership's (GWP) vision of "A Water Secure World" by improving water security while simultaneously addressing food, energy, ecosystems, urbanisation, and water security (Induruwage, 2016: 6-7).

Against this backdrop, the question remains how does one define water security in South Asia? In the following pages, an attempt has been made to examine the various dimensions of water security in South Asia.

WATER AND FOOD SECURITY

FAO has linked water security to food security. With regard to cultivation or agriculture, water is an indispensable component of food production. Transboundary riparian communities in South Asia have encountered food production challenges due to river water scarcity, which has impaired their livelihood and survival. According to the HDR from 2006, by 2050, 2.5 billion people in South Asia will be afflicted by water deficit and shortage. In the tropical portions of South Asia, where such grains are indeed planted near their thermal tolerance threshold, an increase in temperature will have a detrimental influence on the yields of rice and wheat. While the obvious implications of global warming are related to increases in temperatures, the spillover will be seen in terms of water unavailability, shifting state of soil wetness, and diseases and pest frequency (Mittal, 2009: 7-8).

Food security counts as a feature or subset in terms of framing water security within the human needs approach

which The Food and Agricultural Organization (FAO) also took into account to link the concept of water security to food security. Because of water, water security can ensure enough and regular water supplies to the vulnerable communities living in arid regions for their welfare and well-living to meet agricultural production needs. Similarly, while water security implies sufficient agricultural production to sustain a community or country, crop selection that meets nutritional needs is also important. However, security in these areas is contingent on a variety of factors in addition to those linked to water security.

WATER AND SUSTAINABLE DEVELOPMENT

Sustainability is another major area of focus in water security and is of particular relevance to South Asia. Sustainability ensures water security in terms of economic, ecological, and social needs. For instance, it ensures how the natural environment can be protected and enhanced by guaranteeing everyone's safe entree to enough safe water for continuing a clean, comfortable, and prosperous life at an affordable cost. Meeting basic requirements, safeguarding the food supply, conserving ecosystems, sharing water resources, controlling hazards, valuing water, and intelligently administering water are all factors included in this wide framework. This, according to the GWP, necessitates the establishment of baseline standards for water resource management in a watershed on an ongoing basis—for "life"—and necessitates human and environmental access to enough amounts of acceptable quality water (Bakker, 2012: 97).

By 2030, water security will be critical to achieving the majority of the Sustainable Development Goals (SDGs). This is because water is a supporting resource for a variety of sectors, including urban, food, health, energy, and the environment, and its supporting roles distinguish water as a connecting as well as a supporting sector (Unesco, 2019: pp. 101-106).

Individual nations must collaborate closely to ensure that transboundary projects, like as dam construction, are carried out in a sustainable way, taking into consideration diverse "national development objectives, local requirements, natural habitat consequences, and cross-border implications" (Trias, 2020).

Water and Societal Security

Water has always been and will continue to play an

important role in human development. Water is a source of life, a means of sustenance, and a provider of wealth. It is a cornerstone of effectively any methods of work, notably cultivation, commerce, power, and communication, and it is formed by healthy individuals amid sound ecosystems. Water may also be a source of loss, destruction, and even deprivation. It is a destructive force, wreaking havoc in the form of droughts, floods, landslides, epidemics, erosion, flooding, desertification, pollution, as well as illness over time. Water has been a cause of contention and even conflict between users and consumers throughout history, especially when water transcends legislative borders at both national and regional scales.

Water as Economic Security

Developing and managing water resources to achieve water security has always been, and continues to be, at the crux of the quest for progress, sustainable development, and alleviating poverty. This seems to be the case in every developed country, with the vast majority of them spending early and heavily on water infrastructure, governance, and institutional capacity. Many developing countries are still dealing with this problem today, with water management and development being a primary concern. However, until these obstacles are addressed, long-term progress and poverty eradication will be inconceivable.

Water Security through The Teesta River Comprehensive Management and Restoration Project” (TRCMRP)

The initiative includes seven distinct goals. River regime control is the first of the TRCMRP’s seven goals. TRCMRP’s second point is flood management. Moreover, the TRCMRP intends to dredge the river system in order to restore the river system. Fourth, the TRCMRP seeks to improve water storage in the Teesta to boost water availability. The project discusses land acquisition and reclamation. Hydraulic construction and irrigation have received a lot of attention. The initiative subsequently shifted its attention to environmental and ecological restoration (Azaz, 2020). According to the project overview, floods cause major erosion leading to a shortage of appropriate preventive efforts, culminating in enormous quantities of properties and housing areas being drowned each period of the year. The project intends to improve the river regime and flood

management while simultaneously addressing a water deficit during the arid periods and facilitating growth in the larger Rangpur region’s economy.

Land reclamation, advancement, use of transport and trade, reduction of human and ecological damage, ecosystem restoration, and support of local socioeconomic development are some of the other concerns. The government is eager to put the project to work in order to boost crop production in the Teesta River basin, build a large-scale industrial park, and develop a distinctive, modern, and pleasant urban complex (Chakma, Bangladesh leans to China for Teesta management amidst Indian neglect, 2020, nd). The management and restoration project aims to effectively manage the river basin, reduce floods, and address Bangladesh’s summer water shortage.

Over the years, the Teesta River’s narrative has had many consequences. The lengthy dispute between India and Bangladesh over the Teesta River’s water has yet to be resolved. Therefore, the river basin community’s human development in terms of livelihood and survival was heavily reliant on adequate river water supply with efficient flow.

Water Security over the China-Bangladesh Teesta Project

China’s “Teesta River Comprehensive Management and Restoration Project” (TRCMRP) has had a significant impact on Bangladesh, and it has become a subject of discussion among civil society members and water development specialists. As a response to water security, a number of concerned water-development professionals in Bangladesh have shared their opinions on the project in a number of leading newspapers. In order to get a broad understanding of how TRCMRP meets water security concerns, a discourse analysis of some newspaper reports and editorials has been undertaken. One of the primary reasons for relying on these reports is to analyze how issues related to the China-led Teesta project have been represented. This is reflective of the importance that China holds to Bangladesh’s foreign policy and also highlights the language that has been used by various newspaper reports, which are local and national to understand water as a ‘security’ issue.

Ainun Nishat, a Professor Emeritus at BRAC University and a river specialist, cautioned in ‘Benar News’ on August 8, 2020, titled “China Lending Bangladesh Almost \$1 BN for Teesta River Project” that, “The Teesta carries a huge volume of silt from upstream. During the rainy

season, the bulk water would carry huge amounts, so within three years, the river would be silted up and cause flooding again." He also notes that "The way the Water Development Board is going to reduce the width of the river would cause harm to the river and its fishing resources", at the same time "If the river depth is made 10 meters or more, groundwater would flow into the river during the dry season, making the nearby farmland unusable". Nishat has also questioned that "The Teesta River provides a sardine-type sweet piyali fish. What would happen to the fish if the depth were increased through dredging? What would happen to the turtles and other aquatic species" (Chowdhury, 2020).

On this premise, it is possible to state that Teesta's way of life is far more reliant on its underlying services offered by the ecosystem. The water resources of the Teesta River are attributed to environmental viability. In the case of water security, it is apparent that food security, sustainable development, societal security, and economic security are all aspects to be considered. However, in response to the given concern, the accumulation of silt in the riverbed is a severe barrier to water flow, at the same time accumulated silt can't be moved without proper water flow. It means that silt accumulates only if there is a lack of or weak water flow. As a function, only a proper water flow can endure such a silt layout, rendering water supply essentials a main concern in water security. As per Nishat, the probability of a flood occurring within the next three years is sensible because, without proper flow, the totality of accumulated silt causes flooding, which has an impact on the ecological balance and river biodiversity, impeding people's survival and livelihood in terms of food, sustainable development, societal and economic security. As a result, water security is like a chain, with each link having an influence on the others. So, it can be said, that the Teesta River water flow is the entry point for water supply in the Teesta River water security.

In accordance with TRCMRP, dredging, there is a risk to Teesta's water and aquatic resources because dredging can pose a significant threat to river navigability, as the quality and quantity of groundwater are both dependent on it, which contributes to food scarcity by affecting crop output and fishing owing to a lack of appropriate water for agriculture, which affects their existence and livelihood. Sustainable growth will not be possible if their overall survival and livelihood are jeopardized. Because they may achieve sustainable development by managing their livelihoods in terms of agricultural revenues as

economic security, keeping ecological balance as environmental security, and meeting social needs. For the population of the river basin community, loss and poverty have cast a shadow of societal instability.

"Bangladesh leans to China for Teesta management amidst Indian neglect". This was the heading of the Daily Star on August 10, 2020. Citing the reference of the Ministry of Water Resources, Md Kabir Bin Anwar, who is a senior secretary of the Ministry of Water Resources of Bangladesh, noted that "If we can implement the project, a vast area on the Bangladesh side can be supplied with water during the crisis season," (Chakma, 2020), without mentioning any assurances of environmental sustainability and adequate flow of Teesta's water and its ecosystem. On light of this, storing water during the crisis season by erecting a dam can help to alleviate the water crisis by supplying water in a shorter period of time, but it will not be sufficient owing to a shortage of water flow. Because the dam, further downstream, is unable to allow water to flow, it stymies the effective and efficient flow of water. So, resolving the crisis in a short period of time can have long-term consequences on the ecosystem. Without water flow, silt accumulates, causing the riverbed level to increase, causing serious floods and erosion, affecting aquatic resources, and compromising the biodiversity and ecological balance of the basin area, which becomes a major problem for the river basin community in terms of managing their survival because the Teesta community's survival is strongly reliant on the Teesta's proper water flow. Thus, water flow accounts for the basic tackling kit of Teesta's water supply by taking into account the ecology to ensure food, long-term development, and societal, and economic security. Again, if water flow cannot be assured, all aspects of water security will be undermined, resulting in a serious water shortage.

For that, crop production could be impaired as a result of water deficit, which could affect their food security. This becomes a significant impediment to meeting their economic, social, and ecological demands, having a direct influence on their everyday lives. It utilizes the water and its resources in order to obtain economic profit, but that benefit is contingent on the water being valued in terms of achieving sustainable development.

"Hence it is unclear how environmentally sustainable the project is", as per Syeda Rizwana Hasan, head of the Bangladesh Environmental Lawyers Association (BELA), who said in 'Eco-Business' on September 30, 2020, under the heading of "To India's chagrin, Bangladesh turns to

China to transform Teesta River” (Roy, 2020b). On the grounds of this, there has been no firm indication of environmental concern. When environmental security is not adequately addressed, there is still a risk of water shortages caused by weak flow, which can disrupt the river's water supply. Because river water, in terms of its flow, can maintain ecological balance, it has an impact on agricultural, food, and crop security, as well as societal security, which meets the basin's people's social demands. Rivers' healthy way of life, which includes water flow and supply, is linked to environmental safety. Because the river water determines the natural equilibrium. At the same time, environmental insecurity has an impact on societal security through natural disasters, pollution, epidemics, and sickness. In fact, due to river water environmental instability, no economic gain in terms of water infrastructure development can be realized.

The heading of the 'China Dialogue' on October 21, 2020, "Bangladesh turns from India to China to transform major river" showed with citing reference that "The river has a braided characteristic [with multiple rivulets and islands] that has developed over thousands of years. So, it will be a continuous struggle to keep the Teesta in a narrow single channel," said Monsur Rahaman, a professor at Bangladesh University of Engineering and Technology (BUET) under the Institute of Water and Flood Management and an expert involved with Delta Plan-2100, which aims to "boost Bangladesh's economy and deal with climate change," who is very skeptical about the project's successful implementation. He stated, "It would be easier to build a barrage to retain water" (Roy, 2020a). In consideration of this, as the Teesta River confronts severe water scarcity, the existence of the basin's inhabitants is imperiled; thus, retaining water becomes the prime requisite for bringing the Teesta back to life by constructing a barrage. However, with regard to water security, constructing a dam or barrage can be regarded as a major environmental danger, posing a risk to human life and survival. This is because dam construction is a key stumbling block to human development in this basin. Because riverine communities' human development is strongly reliant on river water for food, sustainable development, and societal, and economic security. Dam construction can have serious negative repercussions for human development because dams restrict water flow, diminishing the quality and quantity of river water supply, which impedes food production and has a

detrimental influence on human health and nutrient security. Hereafter, dam development projects, according to the study, affect the river's ecology by holding water and interrupting the river's flow. Thus, ecological imbalances can hinder economic progress while also jeopardizing community security in the face of natural calamities. So, water flow becomes a major contributor to achieving Teesta's water supply, as well as a primary determinant of Teesta River water security.

Riverine People director Tuhin Wadud, also an associate professor at Begum Rokeya University, Rangpur, remarked that "a proper water-sharing treaty with India and scientific dredging of the riverbed was essential to save the river beside the mega project" on November 2, 2020, in 'NEWAGE Bangladesh' under the title of "Rangpur div people demand Teesta protection, water share" (Hossain, 2021). In view of this, both an agreement between India and Bangladesh, as well as a project-led economic plan that may span the Teesta River region's entire economic and socio-economic growth, are essential to keep the flow of water properly. Ecology, environment, and biodiversity must be balanced, according to water security discourses, if the water stream is to become stable. Because water flow can meet the needs of a balanced ecosystem in terms of river environment and biodiversity. So, Food, sustainable development, societal security, and economic security are all dependent on the availability of water with sufficient flow to support the entire basin community's human development and expansion.

On March 30, 2021, Moinul Islam, a retired Professor of economics at Chittagong University, wrote in 'Prothom Alo' (English edition) under the heading "Teesta management: Why India's objection to being accepted?" that "A sustainable solution can be made if the water preserved in the water bodies of the proposed project can be utilized in a planned irrigation system" (Islam, 2021). In account of that, retaining water at a single point becomes problematic when a long-term solution is desired. Water conservation in bodies of water is not a long-term solution because it interrupts water flow, that endangering aquatic species while also threatening groundwater resources and interrupting the ecological cycle.

As a result, the riverine people's survival will be endangered because the food, crop, sustainable development, and economic situations of the entire basin community's life and livelihood are purportedly

manipulated by the surrounding environment of river water. So, those assumptions are unreasonable in terms of water security, because it has a negative impact on river ecology and the river basin's overall community. To achieve the Teesta River water security, water flow, and water conservation in a body of water are diametric opposites.

Leaders from various river-related socio-cultural organizations, such as 'Teesta Banchao Nodi Banchao Sangram Parishad' and 'Save the Teesta, Save the River Committee,' commented that "the Teesta project is much needed to improve the socio-economic condition of the vulnerable people of the river basin areas and to save the loss of biodiversity in the region" in 'The Business Post' by the heading of "Teesta project: A ray of hope for northern region" on November 3, 2021 (Hossain, 2021). Herein, economic and sociocultural development, as well as environmental sustainability, are not mutually exclusive; they are intrinsically connected with an increased demand for water. Water flow becomes important to attain sufficient water for socio-cultural development while maintaining ecological balance and biodiversity because an effective and proper flow can ensure supply sufficiency. As a result, water flow is the most important factor in achieving water security. One can also say that ensuring water must be a significant preoccupation to achieve human development. The developmental door would be easily accessible if the river water were secured.

Above all the discourses that have been studied, an alternative premises on water security has been proposed. Among the discussions, government officials from Bangladesh's Ministry of Water Resources have underscored the project's potential to handle the water crisis, without taking into account a broader understanding of water security. In the prevailing discourses, they favored the project as a state-oriented spectacle. It casts narrow underlying attributes in the framework of water security in terms of resolving the water crisis by the project itself.

CONCLUSION

The study concludes that water flows have become a prerequisite for supply sufficiency in order to overcome the water crisis in the Teesta River. In this case, supply sufficiency becomes the primary goal of Bangladesh's Teesta River water security issues. Water flow becomes critical in achieving supply sufficiency. Because supply

sufficiency cannot have long-term consequences in respect to sustaining ecological balance and biodiversity in the Teesta River environment without proper water flow; because of ecosystem orientations, water flow can ensure appropriate supply sufficiency. As a result, the TRCMRP's China-Bangladesh engagement will hardly have any chance of achieving this goal. As adequate water flow becomes a necessary tool for preserving the river's healthy body in order to maintain ecological balance and biodiversity in the river's water resources, it is possible to conclude that the Teesta River's water security will be jeopardized if sufficient water flow is not retained. There will be an underlying vested interest in China's involvement if the Teesta River project does not ensure continued security. Thus, the study validates the premise that water supply sufficiency in terms of proper water flow can meet the Teesta River's water security standards. However, the analysis concludes that the China-led Teesta project is incompatible with the Teesta River's water security. Above all, the Teesta water project is instructive for understanding China-Bangladesh relations since this study suggests that a Chinese-led water project would not be a decisive factor in Bangladesh's water security, and the other related geopolitical concerns should be kept in mind when discussing the issue of 'water security' in Bangladesh.

ACKNOWLEDGMENT

I'd really like to express my heartfelt gratitude to Dr. Medha Bisht, who is an Associate Professor at South Asian University, for giving the chalk in hand to my academic research and allowing me to work on this worthwhile master's thesis. I owe her a debt of gratitude.

COI: I declare that there haven't been any conflicts of interest.

REFERENCES

- Albinia, A. (2020). A water crisis looms for 270 million people as South Asia's glaciers shrink. <https://www.nationalgeographic.com/magazine/article/water-crisis-looms-for-270-million-people-south-asia-perpetual-planet-feature#:~:text=Perpetual%20Planet-A,%20water%20crisis%20looms%20for%20270%20million%20people%20as%20South,agriculture%20and%20a%20gr>
- Azaz, M. (2020). Teesta River Comprehensive Management Project: How comprehensive will it

- be?
<https://www.tbsnews.net/feature/panorama/tee-sta-river-comprehensive-management-project-how-comprehensive-will-it-be-160042>
- Bakker, C. C. (2012). Water security: Debating an emerging paradigm. *Global Environmental Change*, 22(1), 94-102.
- Bandyopadhyay, J. (2009). Towards A Synergy-Based Approach to River Basin Governance. *ORF*(308), 1-10.
- Basumatary, J. (2021). Water and India's National Security Strategy: Why Should India be Conscious? <https://finsindia.org/water-and-indias-national-security-strategy-why-should-india-be-conscious/#:~:text=Traditional%20Security%20Dilemma%20and%20Water&text=The%20traditional%20security%20dilemma%20to,territory%20and%20military%20security%20strategy>.
- Booth, K. (2007). *Theory of World Security* (1st ed.). Cambridge: Cambridge University Press.
- Chakma, J. (2020). Bangladesh leans to China for Teesta management amidst Indian neglect. <https://www.thedailystar.net/business/news/bangladesh-leans-china-teesta-management-amidst-indian-neglect-1942561>
- Chakma, J. (2020). Bangladesh leans to China for Teesta management amidst Indian neglect. <https://www.thedailystar.net/business/news/bangladesh-leans-china-teesta-management-amidst-indian-neglect-1942561>
- Chowdhury, K. R. (2020). China Lending Bangladesh Almost \$1 BN for Teesta River Project. <https://www.benarnews.org/english/news/bengali/river-project-08132020152356.html>
- Delay, J. (2021). *Global Water Security and Sanitation Partnership: Annual Report 2021*. Washington, D.C: World Bank Group.
- Dholakia, A. (2019). Transboundary Rivers of South Asia – The Case for Regional Water Management. <https://impakter.com/transboundary-rivers-of-south-asia/>
- Gleick, P. H. (1993). Water and Conflict: Fresh Water Resources and International Security. *The MIT Press*, 18(1), 79-112.
- Gugoff, C. (2011). Climate Change and Conflict in Migration from Bangladesh to Assam (India). Retrieved 4 14, 2022, from Climate Change and Conflict in Migration from Bangladesh to Assam (India)
- Hall, D. G. (2014). Water Security and Society: Risks, Metrics, and Pathways. *Annual Review of Environment and Resources*, 39(1), 611-639.
- Harrington, C. (2013, 11 28). Fluid Identities: Toward a Critical Security of Water. <https://ir.lib.uwo.ca/cgi/viewcontent.cgi?article=2884&context=etd>
- Harrington, C. (2014). Toward a critical water security: hydrosolidarity and emancipation. *Canadian Foreign Policy Journal*, 22(1), 28-44.
- Hossain, Z. (2021). Teesta project: A ray of hope for northern region. <https://businesspostbd.com/nation/teesta-project-a-ray-of-hope-for-northern-region-34583>
- Induruwage, K. L. (2016). *Water security for Development: South Asia in Action*. Battaramulla: International Water Management Institute.
- Islam, M. (2021). Teesta management: Why India's objection to be accepted? <https://en.prothomalo.com/opinion/teesta-management-why-indias-objection-to-be-accepted>
- Loftus, A. (2015). Water (in)security: securing the right to water. *The Geographical Journal*, 181(4), 350-356.
- Manthritilake, J. L. (2012). Water security: Old concepts, new package, what value? *Natural Resources Forum*, 36(2), 76-87.
- McDonald, M. (2008). *Constructivism*. In P. D. McDonald (Ed.), *Security Studies: An Introduction* (pp. 59-72). London: Routledge.
- Mittal, S. (2009). Food Security in South Asia: Issues and Opportunities Working Paper No. 240. <http://hdl.handle.net/10419/176258>
- PTI. (2004). Water should not divide us: Manmohan Singh. <https://www.rediff.com/news/2004/aug/15iday2.htm>
- Roy, P. (2020a). Bangladesh turns from India to China to transform major river. <https://chinadialogue.net/en/energy/bangladesh-turns-from-india-to-china-to-transform-major-river/>
- Roy, P. (2020b). To India's chagrin, Bangladesh turns to China to transform Teesta River. <https://www.eco-business.com/news/to-indias-chagrin-bangladesh-turns-to-china-to-transform-teesta-river/>

- Sadoff, D. G. (2007). Sink or Swim? Water security for growth and development. *Water Policy*, 9(6), 545–571.
- Thapliyal, S. (2011). Water Security or Security of Water? A Conceptual Analysis. Browse by discipline, *India Quarterly: A Journal of International Affairs*, 67(1), 19-35.
- Trias, C. C. (2020). Water Security in Southeast Asia: Regional, National, and Sub-national Challenges. S. Rajaratnam School of International Studies (IN20-02).
- Unesco. (2019). Water security and the sustainable development goals. <https://digitallibrary.un.org/record/3807832?ln=en>
- White, F. A. (2019). Depoliticizing South Asia’s Water Crisis. <https://thediplomat.com/2019/02/depoliticizing-south-asias-water-crisis/>

Publisher’s note: EScience Press remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.



Open Access This article is licensed under a Creative Commons Attribution 4.0 International License, which permits use, sharing, adaptation, distribution, and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made. The images or other third-party material in this article are included in the article’s Creative Commons license unless indicated otherwise in a credit line to the material. If material is not included in the article’s Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder. To view a copy of this license, visit <http://creativecommons.org/licenses/by/4.0/>.

© The Author(s) 2023.