**Received:** October 24, 2024

**Revised:** November 09, 2024 & November 27,2024

**Published:** December 31, 2024

**Journal of Politics and International Studies**
*Vol. 10, No. 2, July–December 2024, pp.195–208*

# The Berlin Rules (2004) of International Water Law and Inter-Provincial Water Disputes in Pakistan

**Dr. Tariq Anwar Khan**
Lecturer, Department of Political Science, Hazara University, Mansehra, Pakistan
**Corresponding: tariqanwar84@gmail.com**

**Ihsan Ullah**
M.Phil Scholar, Department of Political Science, Hazara University, Mansehra, Pakistan

**Iqra Jalal**
Ph. D Department of Political Science, University of the Punjab, Lahore, Punjab, Pakistan

## Abstract

Water is a precious commodity and has political, social and economic significance as well as playing a vital role in decision-making nationally and internationally. Due to the rise in population, industrialization, and urbanization, water resources are dwindling. The Indus River System is a single source for all the water requirements in Pakistan. As an agrarian economy, Pakistan's economy heavily depends on agriculture production. Therefore, every province tries to use maximum water to meet their requirements without due regard to the interests of other riparian provinces. this practice leads to disputes between the provinces. The federal government of Pakistan has developed many arrangements for water allocation, but none of these efforts have solved water disputes among provinces in Pakistan. The current study highlights the issues that confront Pakistan today over water utilization practices, allocation and new projects construction and their solution through the Berlin Rules of international water law. Furthermore, this paper finds that the current situation of water crises in Pakistan is caused by the absence of a comprehensive and consolidated national water strategy, the undemocratic behaviour and purblind policies of the government. It is suggested that Pakistan must adopt the Berlin Rules (2004) in the absence of a solid national water policy for fair water allocation and equitable utilization between the provinces of Pakistan.

**Key Words:** Cultural adaptation, International students support, Cultural adjustment, GB students as sojourners, China-Pakistan.

## Introduction

Diminishing freshwater resources and rising water demands as a result of population growth have given rise to numerous water disputes in many countries around the world, particularly in arid and semi-arid regions. The scarcity of water and the shared natural resource including transboundary rivers among the riparian states or provinces can led to disputes as well as cooperation between them. Considerably the analysis, debate and research on water disputes focuses on international water

conflicts but there is also an increasing risk of inter-state or inter-provincial water disputes. While very less attention has been given to inter-state water competition and violence although it also appears to be a significant risk and it may spread over the international arena. As transboundary river basins are "glocal" natural resources and have international, national and local dimensions, it means they are characterized by both global and local considerations (Janjua, 2021).

Most of the research and scholarship in water disputes is centered on the international water disputes. There are multiple examples in this regard including UN convention on non-navigable uses of international water courses, Helsinki rules on the use of waters in international rivers. (Mager, 2015).

The above-mentioned laws are specifically limited to international waters only. Article 1 of the Helsinki rules clearly mentions that these rules are only applicable to the use global drainage basin, cross boundary rivers and international ground waters only. In the same way, the objective of UN convention is also to develop, manage, use and protect the transboundary water courses.

The entire previous work of the ILA deals exclusively with international water management but it's worth noting that the Berlin Rules (2004) of ILA is applicable not only to the international waters but also numbers of rules are applicable to the management of national level waters (Salman, 2007).

The growing demand-supply gap, climatic change, and rising population is making the water resource as a cause of disputes between states and communities. In this ongoing worldwide situation, Pakistan cannot remain an exception. As agriculture-based economy having deeply rooted ethnic and regional fault lines, water disputes has catalyzed the tensions and conflicts among the federating units in Pakistan. (Ranjan, 2012). The overall water requirement of the country is feeding by a single river system; therefore, every province strives to use maximum water to fulfill their needs as a result disputes among provinces take place. Over the past many years, the distribution of river waters and the controversial multi-purpose project construction have developed distrust among the provinces of Pakistan. As well, only politically influential landlords benefit from the current water allocation system due the absence of strong National Water Policy and the administrative dishonesty. These issues are need to be addressed properly. If they are not addressed effectively, they will cause a breach in the harmony between the provinces of Pakistan.

The current study highlighted numbers of provisions of berlin rules that are applicable to interprovincial water disputes in Pakistan. The focus is mainly over water utilization practices, surface water allocation and provincial concerns over new projects construction and their solution through the Berlin Rules (2004) of International law on Water.

**International Law On Water**

One of the biggest challenges in the 21st century is to ensure a sustainable governance of resources. If we observe about the previous centuries, it was the era of resources discoveries, technological mastery, exploitation and wealth but in this era, it is imminent that the we might see the possibility of depleting resources and ultimate disappearances if our specie fails to find ways in which we can use them with more efficiency and smart use of such resources. In previous centuries, the individual use of such resources was okay, however, in 21st century it is more about

smart use of these resources and harness their benefits by understanding how their use in one area affects their use in other areas and aspects of life. (Dellapenna and Gupta,2009).

Since the beginning of European Industrial Revolution, resulted a massive movement of commodities, materials and people throughout the continent. At that time the industries and governments use the rivers as the chief method of communication and transportation mainly due to fact that other modes were yet not fully developed for use in human progress. Moreover, at that time non- navigational uses of rivers were not the main contestants with navigation. In this regard, navigation became the largest user of European rivers by the commencement of the 19th century, and almost such rivers turned into international highways. The widespread uses of rivers for navigation required some form of regulation, prompting the major European powers to sign the Act of the Congress of Vienna in 1815, this navigational treaty considered the first treaty over water resources. The treaty established the principle of reciprocal freedom of navigation for all riparian states on rivers they share, as well as the priority of navigation over other uses (Salman,2007).

A number of other agreements follow that treaty. In 1885, another treaty was confirmed and expanded. This treaty is known as the General Act of the Congress of Berlin which is primarily responsible for river management and distribution about two major rivers in Africa i-e Niger and Congo.

As a result, the freedom of navigation was extended through this act to non-riparian nations as well. In 1919, the Peace Treaty of Versailles was signed and opened all the navigable rivers in Europe to European states for navigation. However, the growing industrial revolution, speedier modes of transportation, and steady growth in the population necessitated other uses of rivers, such as hydropower, domestic and irrigation use. The Barcelona Convention of 1921 and the Geneva Convention of 1923 were adopted. These conventions reconfirmed the navigational principle of freedom and allowed the riparian states to carry out any operation in their territories for hydraulic power development within the limits of international law. The navigational supremacy of the 19th century was collapsed by the adaptation of these conventions. After World War II, the freedom of navigation was particularly affected after the Cold War began and Europe got split into East and West Europe. As a consequence, freedom of navigation was restricted to states of a common river. (Salman,2007). (This situation perpetuates and is valid even today in customary international law).

Since World War II, due to factors like non-navigational use of rivers and lakes, growing population and global need for reconstruction, freedom of navigation and its relevance has significantly declined. However, there were no such official rules to regulate the no navigational usage. Late in the nineteenth century, many principles and theories reflecting differing state practice on the usage of international rivers and lakes began to develop, such as the principle of territorial sovereignty (every state can do whatever it wants with waters transboundary rivers that pass through it, irrespective of its effects on the lower riparian state. Besides, there was this principle of having right to have absolute territorial integrity (it allows the lower riparian of a transnational river to have the right to complete flow of water with natural quality).

Last, but not the least, the limited territorial sovereignty right principle. (the principle of sharing equal right to use a transnational river without causing willful harm to the state sharing such river). (Schroeder-Wildberg, 2002).

After 1945, a number of serious disputes were raised over international rivers, such as over the Indus River dispute between Pak-India, over the Nile between Sudan and Egypt, over the Columbia between the US and Canada, and over the Jordan between Israel and its neighbors. In these cases, the upstream stayed with the principle of territorial sovereignty, but the downstream states stayed with the principle of absolute territorial integrity. This critical situation explicitly indicated the urgent need for a reliable statement for international law to govern the usage of international rivers, to promote the process of peaceful resolution of existing disputes and to avoid similar disputes in the future (Bourne,1997).

US academic Clyde Eagleton played a key role in persuading International Law association to make efforts in managing and governing global fresh water resources in 1954 in a conference in Edinburgh. The conference resulted in two things: First it a adopted a resolution that emphasized on states to know importance of rights and obligations of states related to issues of inland waters. Secondly, it established a committee "The rivers committee" under the headship of the professor Clyde Eagleton. (Bourne,1997)

At the 1956 conference, the ILA issued the Dubrovnik Statement, stating that each state has sovereign control within its own boundaries over the international river while taking into account the effects on other co-riparian states, the same statement was refined by the New York Resolution of the ILA in 1958, added that each riparian state has the right to reasonable and equitable utilization of the drainage basin waters for beneficial purposes. The notion of reasonable and equitable utilization was the soul of discussion at the meeting of the ILA held in Tokyo in 1964. In 1966, at the occasion of Helsinki Conference, Rules were adopted by ILA based the resolutions and statements given in above lines. One of the foundational principle of international water law was that the rational and equitable use of water of a basin which is international among the states that share that basin. (Salman, 2007). Over the years, the Helsinki Rules have become broadly recognised as a basis for negotiation among nations over shared waters (Rahman, 2009). All the treaties dealing with the utilisation of international watercourses currently in force in central Europe and North America are based on these rules and also provided the basis for the International Water Convention of 1997 (Wildberg, 2002).

After the adaptation of Helsinki Rules, the committee was abolished in 1966 after the adoption of its recommendations. At the same times, it was also acknowledged that more research about this issue is the need of the hour. The discharge of the Rivers Committee in 1966 was followed by the creation of yet another "the Committee on International Water Resources Law" or "Manner Committee" under the chairmanship of Finland's Judge E. J. Manner in 1966 (Bourne, 1997).

The association made another committee that is called 'The Water Resources Committee" commonly known as WRC. In 1990 headed by the academic Prof. Charles B. Bourne. The committee organized itself into sub-groups to explore four main areas/themes. These themes range from cross-media contamination to cross-boundary drainage basin system. Helsinki conference of 1996 multiple decisions were made including adding an article for providing remedies to transboundary

damages, additional rules related to pollution and proposing articles related to non-navigational usages of global water resources. (Bogdanovic, 2000).

In 1998 the WRC issued draft article on adequate stream flow and its meeting at Campione in 1999 issued "The Campione Consolidation of the ILA Rules on International Water Resources 1966-1999" and started updating and revising the ILA rules (Bogdanovic, 2000). In 2000 the WRC completed the Campione consolidation but it not revised the rules properly and the revision process continued after the ILA conference at London. At New Delhi Conference in 2002 the WRC presented its report where it was decided to establish a deadline of 2004 for completion of the project. The 11 members (out of 22 members) of the WRC who attended the Gent meeting in March 2004 finished the work and voted unanimously to send the revised set of regulations to the ILA. During the ILA Seventy-first Conference in Berlin in August 2004, the rules were discussed and approved. The rules were renamed 'The Berlin Rules on Water Resources,' replacing the previous title 'The Revised ILA Rules on Equitable and Sustainable Uses in the Management of Waters.'(International Law Association [ILA], 2004; Salman,2007).

**The Berlin Rules (2004) Of International Water Law**

The Berlin rules on water resources were approved by the International Law Association at its 71st conference held in Berlin on August 21, 2004. Consisting of 73 articles and 14 chapters, the rules are lengthy and all encompassing.

These rules are very comprehensive and detailed, comprising 73 articles, which are divided into 14 chapters. Unlike the Helsinki Rules and United Nations Watercourses Convention, the Berlin Rules dealt with various water resource issues with the advancement of imperative figures of law related to environment, as well as international humanitarian law. Besides, it also relates to the laws about the wars and violent conflicts.

Chapter III deals with equitable and reasonable use of drainage basin water; cooperating in good faith in the management of water; the allocation of water to meet vital human needs and should take precedence over other uses of water; and the state should prevent those activities which can harm another basin state (ILA, 2004).

Chapter IV addresses the rights to water, public participation and access to information, community protection, and the right to compensation if a project, program, or activity injures or displaces a person or community. Chapter V deals with protection of the aquatic environment, and it is obligatory for a state to take all possible actions to ensure adequate flows to keep the ecological integrity of the waters of a drainage basin safe and also to protect ecological integrity and to eliminate, avoid, reduce or control pollution and harm to the aquatic environment. Chapter VI deals with impact assessments, this chapter mandates that states conduct prior and ongoing assessments of the effects of programs, projects, or activities that may have a major influence on the aquatic environment, as well as lays out comprehensive methods for conducting such assessments (Salman, 2009).

Chapter VII covers extreme situations, including highly polluting accidents, floods and droughts. Article 32–35 acknowledges that each state shall take all possible measures to reduce or control all water conditions that pose a significant risk to

human health and life, property, or the environment in the form of floods and drought, and also uses an expeditious method to inform other affected states and competent organizations. Chapter VIII deals with ground water. Chapter XI deals with international cooperation and administration, including exchange of information, consultation, establishment of a joint management mechanism, sharing of expenses, and notification of programs, projects or activities. Chapters XII and XIII discuss liability for injuries to other states, excess to court for affected person or community, and remedies for damage to person and other states. Chapter XIV lays out specific procedures for the peaceful resolution of international water disputes, as well as rules for arbitration and litigation (ILA, 2004).

**Inter-provincial water disputes in Pakistan**

Every non-renewable natural resource has been the main reason for disputes among communities or nations due to their economic values. Despite the fact that natural resources were not the primary cause of the two world wars, the need for resources worked as a stimulant for war. The major powers of that time desired more and more colonies under their control so that they could provide raw materials for their industries, which sparked those wars. The current situation is not dissimilar to the past; American activities in West Asian regions are covertly aimed at establishing suzerainty over the gas and oil fields. Renewable resources, such as water, did not previously have much significance, but they are now gaining significance as a result of the growing demand-supply gap, climatic change, and rising population. These factors make this resource a cause of conflict between the communities and states. In this ongoing worldwide situation, Pakistan cannot remain an exception. As an agrarian-dominated economy with deep ethnic and regional ruptures, water has worked as a stimulant to raise the level of tension among the administrative units (Ranjan, 2012).

Pakistan is situated in a climate zone that is very suitable for agricultural output throughout the year but unfortunately Pakistan lies in the list of most arid countries of the world. According to the World Resources Institute's Aqueduct Water Risk Atlas 2019, Pakistan ranked 14$^{th}$ on the list of countries with extremely high-water risk. Water in Pakistan is becoming scarce, the major exploitable water resources of Pakistan are surface and ground water. The source of surface water is rivers and rainfall, Pakistan receives very little amount of rainfall annually about 494 mm ("Pakistan - Average Precipitation in Depth," 2017). While the Indus River System contribute 180 billion cubic meters of water annually. After the full development of surface water resources, the aggregated ground water potential is estimated to be approximately 56 Million Acre Feet (Sharif, 2003).

Water stress occurs in a country when its supply comes down to 1700 cubic meters (cm) per capita annually, while lower than 1000 cubic meters per capita shows water resource scarcity. Per capita water availability in Pakistan has decrease by 400 percent from 5600 cm in 1947 to around 1038 cm in 2021 (Ali, 2021). Pakistan is confronted with an emerging water crisis in diverse practices, such as water for agriculture irrigation, for industries, for hydropower, as well as water rights and allocation, stakeholders' participation, drought and flood management, information management and research, water quality, institutional and legal aspects and trans-boundary water sharing (Sharif, 2003).

In an interview, Prof. Dr. Abdul Latif Qureshi said that there exist major differences and conflicts among federating units on the regulations and division of water resources. All headwork's for water control are held by the upper riparian, creating a sense of betrayal and mistrust amongst provinces (Hassan, 2016). Traditionally, water divisions were determined by tribal traditions and conventions; whoever lived on upper stream had complete and absolute right to fulfil his needs from this water before he could allow the next farmer to use it. (Khalid and Begum, 2013).

Primarily, Pakistan is an agricultural country and most of the economy depends on it. Statistically, agriculture provides a share of 24 % to national Gross Domestic Product, provides jobs to 48 % of the workforce and about 70 % of Pakistan's exports are either agriculture products or linked with it. The underlying factor for these numbers is the fact that the country has largest irrigation system in the world. Indus River System is the backbone of all the major activities related to Agriculture in Pakistan. Due to its importance, all provinces and the federal government desire to make maximum share of this Indus system for their different sectors of economy like Agriculture and industry etc beside using for domestic needs. Consequent to this importance, an environment of competition, and conflict has been created among federating units in Pakistan. (Ranjan, 2015).

Due to multiple factors, the water disputes of inter-state and intra-state nature are complex and difficult. Nowadays Pakistan's confront many issues relating to inter-provincial water disputes such as mistrust among provinces, mismanagement in the water section, differentiation in Provincial Point of View on Water Rights, the Dam Controversy and compensation issue, failures of responsible institution, lack of awareness and information, reservoir sedimentation, reduced ecological flow and the promotion of traditional doctrines of international water law in the water management.

**Inter-provincial water disputes in Pakistan through the prismatic Berlin Rules (2004)**

Adopting the Berlin rules (2004) is an obvious choice for Pakistan's water-responsible institutions, that are executed in other federal basins around the world where many states are reliant on a shared water resource. The ILA adopted the Berlin Rules on Water Resources in 2004 to replace the Helsinki Rules. These comprehensive rules apply to all national and international fresh waters, as well as related resources like the aquatic environment, and they thereby penetrate within national jurisdictions. These rules consist of a number of principles and obligations and identify the rights and duties of states and persons as well as cover extreme situations, including accidents, droughts and floods, and therefore prevent the build-up of speculation as occurs in the Indus Basin. In the case of Pakistan, all liable institutions for water are directly linked to the purposes served by the Berlin Rules. Adopting these rules will help institutionalize Pakistan's water management practices and would diminish the ad-hoc behavior of liable institutions, allowing space for the buildup of trust among provinces.

**Differentiation in Provincial Point of View on Water Rights**

Every province is protesting against its water sources and voicing its concerns about the government's agreements and plans. Baluchistan claims that the lack of water availability is the stumbling block in the development of the province. Sindh's Guddu and Sukur barrages are the major sources of transferred water to Baluchistan's Pat Feeder and Kirthar canals, Baluchistan believed that Sindh released less water into the canals than their due share of 3.87 MAF allocated by the 1991 Water Apportionment Accord (WAA). They also added that the canal supply is not enough for agriculture, domestic and mining needs. All of the requirements are fulfilled by the flood irrigation system, with just 3.05 MAF utilized. On the other hand, Sindh accused Punjab of not releasing their due share. The flow of water is insufficient to meet the requirements of the province for the agriculture sector and domestic use, for mangrove forest and sea intrusion. The sea water intrusion comes up to 100 km in land directly effects the ecosystem and causes salivation in agriculture. During the water shortage, the operation of the link canal from western to eastern rivers and the filling of Mangla dam created a water shortage in Sindh. Also added that no extra water is available for storage except during the flood period if the proposed dams of Kalabagh, Basha and Akhori are built on the Indus River, as a lower riparian Sindh water will be reduced through filling these dams during the kharif season (Rahman & Shafique, 2020).

In the case of Punjab, agriculture is considered the backbone of its economy because it provides 80 percent of agricultural production to the country and contributes 70 percent of export production. The Punjab's agriculture and industrial sectors heavily depend on the Indus River System. This system has 25 major canals which are taken from 13 barrages. Punjab asserted that it gets less water than its proportion of the 1991 WAA. Dera Ghazi Khan, Potohar and Cholistan in Punjab have less water, and they rely on the remote areas for drinking water. Punjab's water needs are rapidly increasing due to rapid population growth, urbanization and industrialization. Due to the absence of efficient water storage capacity and a decrease in existing dam storage, the target will not be achieved in the near future. Therefore, we need to build new dams and improve the irrigation system as soon as possible to save water wastage (Khalid and Begum, 2013).

KP government has always asserted that by having better and efficient water management, we can avoid water wastage and get rid of the label of being water stressed or being water-scarce. It is estimated that more than 50 percent of the water is wasted due to the 150-year-old canal system before reaching to the farm gate and about 35 MAF is the wasted to sea during the flood season. Out of 142 MAF of total annual flow, 105 MAF diverted into the wasteful supply-based canal irrigation system, as a result 52 MAF is lost through leakage and seepage plus one million miles of the old-style watercourses and the lop-sided shaped field is additional major contribution source of the wastage of fresh water. In this way we losses total of 87 MAF of water out of available 142 MAF through traditional canals system and during flood. WAPDA's local consultancy firm is of low standard. As a result, corruption and low pay are a severe issue that diverts attention away from professionalism. (For the construction of new dams, KP suggested to create the Indus Valley Authority because the existing dam's storage decreasing rapidly due to silting. Dam should be constructed on upper reach; the existing dams were

constructed on lower reach and the result of rapid silting is noticeable due to its wrong location (Khalid & Begum, 2013).

Article 12(2) of the Berlin Rules stated that every Basin states must develop and utilize the basin's water in order to achieve the optimal and long-term utilization and possible benefits, while also considering the interests of other basin states and ensuring proper water protection. Article 14 explicitly mention that States must first allocate water to meet basic human needs when determining an equitable and reasonable use. No other use or category of uses shall have an inherent preference. Preference only will be given to “domestic uses” or “vital human needs.” Waters used for immediate human survival, such as drinking, cooking, and hygienic needs, as well as water required for the immediate nutrition of a household, are referred to as "vital human needs." It does not cover water required for general economic activity, despite some claims that such activity is covered by "vital human needs." Providing jobs and other advantages from increased economic activity are unquestionably essential considerations, but they must be balanced against similar demands in other basin states as well as the obligations of ecological integrity and sustainable development under Articles 12. Article 17 stated that every person has the right to adequate, safe, acceptable, physically accessible, and inexpensive water to meet their basic human requirements. Therefore, state shall insure the execution of the right of access to water on nondiscriminatory manner (ILA, 2004).

**The Dams Disputation and provincial concerns**

The three water reservoirs of Tarbela, Mangla and Chashma were constructed in Pakistan with a total live storage capacity of 15.73 MAF. Due to silting their capacity had reduced to 11.47 MAF in 2010 and 10.13 has estimated in 2021 (“Tarbela Dam attains maximum conservation level,” 2021). The current declining situation of water in Pakistan due to silting of existing reservoirs needs to construct new dams to fulfill the needs of growing population and to restored the capacity lost owing to silting (Rajput, 2014). Work on Diamer-Basha dam was started in July 2020 and it is expected to be completed in 2028. Diamer Bhasha dam will be the country’s third big dam to be built after Tarbela and Mangla dams. It will be used for water storage, flood control, irrigation and power generation (Jamal, 2020).

On the issue of Kalabagh dam, there is clear split among provinces. Punjab government supports the construction of the proposed dam while the other three federating units have opposed it. (Rajput, 2014). This issue has created sharp divisions and polarized the opinion of masses in Pakistan. This polarization is more visible in Sindh where people face a severe problem of salinity of water, affecting both households and farmers who depend on surface water, which is likely to be adversely affected by any upstream water reservoir. Besides, the dam will also affect the entire ecology of the river delta downstream mainly in Sindh where a lot of people depend on fisheries and broadly the delta for their livelihood. (Mustafa, 2010).

Another chapter of the Berlin rules that concerns about aquatic environment is Chapter V. Especially, the article 22 clearly directs the states to make sure that they have a proactive approach in preserving ecological integrity which is essential in order to sustain the ecosystems that is dependent on the specific water. This provision of the rules, have later been accepted into the legal structures of different

states around the world. This provision has also got greater global support. Thus, it makes states responsible for preservation and protections of the ecological integrity of the aquatic communities that rely on these waters.

The dam project is now on hold, owing to the joint resistance of Sindh, Khyber-Pakhtunkhwa, and Baluchistan. The probable flooding of fertile farmland and Pashtun cultural heartland by the lake constructed behind the dam is causing anxiety in Khyber-Pakhtunkhwa. The province is also reluctant to endorse the project due to concerns about the Pakistani government's track record in providing for the rehabilitation of persons displaced by previous large-dam projects (Mustafa, 2010). Those who were evicted from Tarbela dam in 1970 were given alternative land in Sindh's Guddu Barrage command area. The majority of those people sold their properties and returned due to the extreme change in sociocultural climate, terrible weather conditions, and unfriendly local populace. Furthermore, approximately 3000 cases involving these displaced people have yet to be resolved (Bhatti, 2011).

Another disputed dam is Kurram Tangi Dam, located in North Waziristan district of Khyber Pakhtunkhwa (KP). By the end of 2005, all the relevant details of the project from feasibility to tender documentations were complete. In March 2017, the then PM Nawaz Sharif inaugurated the foundation of the project despite reservations by the local community. The controversary surrounding this project dates back to 1936 when it was proposed by British government for the first time but opposed by the local tribes then. (Turi, 2019).

Article 21 and 29 are mentioned in detailed in previous case of KP's concerns against Kalabagh dam is also apply on the case of Kurram Tangi dam. The case of Kurram Tangi dam is different from that of the Kalabagh dam issue to some extent because the dam is located in the former Federally Administrated Tribal Areas (FATA), which recently merged into the KP through the 25$^{th}$ amendment to the constitution of Pakistan in 2018. While the dam construction started in 2017 without consulting the local population therefore, according to the article 20 of the Berlin Rules the dam site lies in the territory of indigenous peoples and particularly vulnerable communities. Article 20 asks the state to be mindful of the rights and interests of local communities, people with vulnerabilities as well indigenous people while planning any use of waters for themselves individually or collectively. That person who is affected by any kind of decision about water management has the right to take part in any kind of decision making that affects them directly or indirectly. To ensure that affected person is able to take participation in such a measure, the states shall be transparent about all the information related to water management without any financial cost or any hindrances.

**The promotion of traditional doctrine of international water law in the water management in Pakistan**

The regulation and allocation of Indus water is a controversial subject between the four provinces of Pakistan and the major cause of dispute between Sindh and Punjab. The Indus River and its tributaries lie in the north of Punjab and flow into the province of Sindh through the Indus delta until they meet the Arabian Sea. Punjab is the upstream province; it is also demographically and politically dominant, therefore by all accounts, the province is in charge of decision-making in relation to water distribution and management, even though the Indus River is the only source of fresh water in Sindh. As an upstream riparian, Punjab justifies its use and the

management of Indus water on the basis of "territorial sovereignty". This theory of territorial sovereignty claims any state may use any watercourse within its borders as necessary, without considering the need for downstream riparians. On the other hand, Sindh promotes the theory of "territorial integrity", this theory is based on the assertion that the lower riparian has exclusive right to the natural, uninterrupted flow of the river from the territory of upper riparians. In fact, within the Pakistani context, sharing the waters of the Indus River basin is not easy because harsh attitudes have developed over years of mistrust and miscommunication between the provinces. Sindh believes that Punjab has stripped it of its historical rights to the Indus River. Punjab is also despised due to its prominent and dominating roles in politics, the economy, and the military (Magsi & Atif, 2012).

The intricate nature of water sharing disputes among states has been the chief reason why theories of territorial sovereignty and integrity do not provide any solution and this is the reason they are largely unacceptable. However, a limited application of such theories is acceptable. Similarly, the basic principle that no significant harm is to be caused by ensuring the equitable utilization of water resources are followed by the different articles of the Berlin Rules. The article of this rule also makes it obligatory for states to manage the water of any river basin in a equitable way within their territorial jurisdictions. The question of how to have equitable and reasonable use shall have to be decided by considering all the relevant factors in each and every case. The article 13(2) stipulates such factors that include geographical factors, hydrographic, hydrogeological, climate and such like other natural elements, local level needs of states and communities concerned, the population that depends on river basin waters, the impacts of such use of water by river basin population/states, and most importantly the how sustainable the prospective or existing use in order to significantly reduce the environmental threats.

## Conclusion

Being an agrarian country, Pakistan economy heavily based on agriculture productivity therefore water and electricity are required for irrigation and industrial development to prosper the economic growth of the country. Water is essential for a strong economy as an agrarian economy but not to ignore its social and political implication to society. Uncertainty among provinces in the utilization of water and diversity on water rights, construction of new reservoirs without consulting and approval from local people and stakeholders, the issue of compensation for the effected people by multipurpose projects, the promotion of traditional doctrine by provinces in the water allocation, absence of strong water strategy and the federal government carless attitude toward water management are the major factors behind the endless water feuds between the provinces of Pakistan. There is dire needs to address the reservations of provinces over water allocation and dams construction because the issue of equitable water allocation and ranking of important water project are the most conflictive issues in Pakistan. The shocking water shortage in Pakistan calls for pragmatic policies, political vision and affective river regulations.

The principles (of equitable and reasonable utilization, preference among uses, obligation not to cause significant harm, principles of public participation and access to information, protection of particular communities, the right of compensation, principles of ecological integrity and ecological flow) of Berlin Rules on Water

Resources (2004) of International Law Association are widely acknowledged by modern international water treaties, agreements and conventions. These globally recognize rules could assist as guiding principles and provide a framework for further dialogue among the provinces on share waters for creating effective water resources management. The current situation of water crises in Pakistan is caused by the absence of strong water strategy, the unrepresentative attitude and purblind policies of the government. In this situation its very necessary for the government of Pakistan to adopt the principles as proposed by Berlin Rules on Water Resources to satisfy the province over water allocation and on the construction of new projects.

## References

[1] Ali, K. (2021, July 13). 'Per capita water availability in Pakistan has decreased by 400pc'. The Dawn News. https://www.dawn.com/news/1634786/per-capita-water-availability-in-pakistan-has-decreased-by400pc.

[2] Bhatti, M. N. (2011). The problem of water management in diverse societies: Study of Kalabagh Dam Project in Pakistan. *Journal of Public Administration and Governance, 1*(2), 240-55.

[3] Bogdanovic, S. (2000). Water law after Dayton: The current state of regulation in Bosnia and Herzegovina. *Water international, 25*(4), 534-543.

[4] Bourne, C. B. (1997). International water law: selected writings of Professor Charles B. Bourne (Vol. 1). Martinus Nijhoff Publishers.

[5] Dellapenna, J. W., & Gupta, J. (2009). The evolution of global water law. In The evolution of the law and politics of water (pp. 3-19). Springer, Dordrecht.

[6] Hassan, M. (2016). Water security in Pakistan: issues and challenges. *United Nations Development Programme Pakistan, 3*(4), 1-34.

[7] International Law Association. (2004). Berlin Conference (2004). *Water Resources Law*, 3-55.

[8] Jamal, S. (2020, July 15). Pakistan begins construction of Diamer Bhasha Dam. *World Asia*. https://gulfnews.com/world/asia/pakistan/pakistan-begins-construction-of-diamer-bhashadam-1.72607867.

[9] Janjua, S. (2021). Evaluation of Water Allocation System and Reservoir Ranking for Indus River Basin: A Hydro-Economic Perspective (Doctoral dissertation, Capital University).

[10] Khalid, I., & Begum, I. (2013). Hydro Politics in Pakistan: Perceptions and Misperceptions. *South Asian Studies* (1026-678X), 28(1).

[11] Land acquisition talks fail: Tribesmen warn of resisting Kurram Tangi Dam Phase II construction. (2019, January 03). The Express Tribune. https://tribune.com.pk/story/1880231/land-acquisition-talksfail-tribesmen-warn-resisting-kurram-tangi-dam-phase-ii-construction.

[12] Mager, U. (2015). International water law: Global developments and regional examples. Jedermann-Verlag GmbH.

[13] Magsi, H., & Atif, S. (2012). Water management, impacts and conflicts: Case of indus water distribution in Sindh, Pakistan. *International Journal of Rural Studies*.

[14] Mustafa, D. (2010). Hydropolitics in Pakistan's Indus Basin. Washington, DC: US Institute of Peace.

[15] Pakistan - Average Precipitation in Depth (mm Per Year). (2017). Trading Economics. https://tradingeconomics.com/pakistan/average-precipitation-in-depth-mm-per-year-wbdata.html#:~:text=Average%20precipitation%20in%20depth%20(mm%20per%20year)%20in%20 Pakistan%20was, compiled%20from%20officially%20recognized%20sources.

[16] Rahaman, M. M. (2009). Principles of international water law: creating effective transboundary water resources management. *International Journal of Sustainable Society*, *1*(3), 207-223.

[17] Rahman, K.U., & Shafique, R. (2020, December 26). Inter Province Water Conflict in Pakistan: Perception and Misperception. ResearchGate. https://www.researchgate.net/publication/347916248_Inter_Province_Water_Conflict_in_Pakistan _Perception_and_Misperception.

[18] Rajput, M. I. (2014). Inter-Provincial Water Issues in Pakistan. Pakistan Institute of Legislative Development and Transparency (PILDAT). *Retrieved 28th May*.

[19] Ranjan, A. (2012). Inter-provincial water sharing conflicts in Pakistan. Pakistaniaat: *A Journal of Pakistan Studies*, *4*(2), 102-122.

[20] Ranjan, A. (2015). Water disputes between Punjab and Sindh: a challenge to Pakistan. *New Water Policy & Practice*, *1*(2), 46-58.

[21] Salman, M. (2009). The World Bank policy for projects on international waterways: an historical and legal analysis (Vol. 4). Martinus Nijhoff Publishers.

[22] Salman, S. M. (2007). The Helsinki Rules, the UN Watercourses Convention and the Berlin Rules: perspectives on international water law. *Water Resources Development*, *23*(4), 625-640.

[23] Schroeder-Wildberg, E. (2002) The 1997 International Watercourses Convention – Background and Negotiations. Germany: Technical University of Berlin.

[24] Sharif, H. (200 3). Inter Province water distribution conflict in Pakistan.

[25] Tarbela Dam attains maximum conservation level. (2021, September 02). The DawnNews.https://www.dawn.com/news/1643999/tarbela-dam-attains-maximum-conservation-level.

[26] Turi, H. (2019, May 13). Kurram Tangi Dam, Pakistan. Enviromental Justice Atlas. https://ejatlas.org/conflict/kurram-tangi-dam.