

© 2020 Khalid & Iqbal. This is an Open Access article distributed under the terms of the Creative Commons-Attribution-Noncommercial-Share Alike License 4.0 International (<http://creativecommons.org/licenses/by-nc-sa/4.0/>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly attributed, not used for commercial purposes, and, if transformed, the resulting work is redistributed under the same or similar license to this one.

**Journal of Politics and International Studies**  
*Vol. 6, No. 2, July–December 2020, pp.141–156*

## **Importance of Institutional Arrangements in the Management of Kabul River Basin**

**Prof. Dr. Iram Khalid**

*Chairperson,*

*Department of Political Science,*

*University of the Punjab, Lahore.*

**Correspondence:** [iram.polsc@pu.edu.pk](mailto:iram.polsc@pu.edu.pk)

**Muhammad Iqbal**

*Ph. D. Scholar*

*Department of Political Science*

*University of the Punjab, Lahore*

### **ABSTRACT**

River Basin institutions or organizations are created for management of rivers on basin scale because unilateral and isolated actions regarding river infrastructure development create doubts and have adverse effects on quality, quantity and timing (availability) of water resources. Therefore, cooperation on shared water resources ensures adequate usage of water with enhanced economic opportunities. The river basin institution, create ownership in riparian countries and involve their political commitment for promoting coordination and cooperation. This plat form is used for sharing of benefits and fruitful results of water. The member states focus on issues and obstacles which hinder success prospects. The setting up of Trans boundary water management institution/organization/ commission is necessary to deal with issues between riparian countries. Hindrances include political and technical factors which riparian states should consider. Setting up of commission on Kabul River will guide and facilitate in preparing benefits sharing schemes and reaching treaties. In this article, importance of institutional arrangement in management of Kabul Basin is discussed along with other allied and related aspects including some successful examples of river basins institutions/ organizations around the world.

**Keywords:** *Institutional Arrangement, Kabul River Basin*

### **Introduction**

A river basin institution or organization is described as an established system of collaboration based on obligatory international agreements, containing clearly marked geographical area of transboundary river or lake basin specified by rules, standards, values, principles and management systems (procedure, structure etc.) (Schmeier et al, 2013).

River Basin institutions and organizations are imperative for international joint water courses. Proper setting up of governance mechanism and institutional structure are necessary for improving management efficiency. Similarly, joint management of environmental and natural resources in durable way is possible through organizational set up. The working and success of international River Basin Organizations of Senegal, Danube and Mekong Rivers Basins from Africa, Europe

and Asia respectively are evident in this regard. Experiences of experts depict that practical and maintainable management of common water courses is essential for the stability and growth of riparian states (Schmeier,2012).

The introduction of the process of basin management in Asia seems slow and also facing obstacles due to political and economic facts, but also evidently determines that management based on IWRM principles is gradually gaining strength and acceptance from different governments and is becoming a reason of regional cooperation. Basin organizations are established as a system to increase benefits of development activities, prompt response to constantly changing and developing water related issues, and improving the chances for effective enforcement of plans/policies (Pangare et al, 2009).

#### **Some Examples of successful River Basin Institutions/Organizations:**

Mr. Ikramuddin Kamil (Research Scholar, Faculty of Legal Studies, South Asian University, New Delhi) is of the view that there are many examples where riparian States to an international watercourse have set aside differences and have mutually established a commission to deal with the management of international watercourse. Indus River Commission between India and Pakistan is the best example where two historical rivals manage their shared rivers through a joint commission. Afghanistan and Iran also share the Helmand River, which is governed by a 1973 Treaty. The Treaty provides for the establishment of a joint commission to observe the implementation of the Treaty and to serve as liaison officers between the two countries. Though it is not effectively functional however, it can assist as guideline for both Afghanistan and Pakistan (Email communications 02-02-2020 & 13-10-2020)

#### **Mekong River Commission:**

The Mekong River Agreement reached between Laos PDR, Thailand, Vietnam and Cambodia in 1995. Under the agreement, Mekong River Commission was established for collaboration and sustainable development. Now it is one of the most advanced and active river commissions and is cited as a successful model. The commission has three permanent components i.e., secretariat, joint committee, and Council. Each component has different defined roles and prescribed powers (Jacobs,1994; Hori,2000; Bearden,2010).

#### **Permanent Water commission (PWC) of Arpacay/Akhuryan River:**

Turkey and Armenia amicably manage their water resources of transboundary river Arpacay/Akhuryan (a tributary of Araks River) amid tense political relations through river basin commission. Both conflicting parties focus on cooperative management of transboundary water resource. The regulatory mechanism is based on the agreements of 1927,1964 and 1973. 1927 agreement set up legal regulatory system for future arrangements. To look after the arrangements, a joint committee was formed. In 1973, Turkey and USSR entered into an agreement to build dam as agreed under 1964 Protocol and jointly constructed a dam in 1983 on the border of river Arpacay/Akhuryan. For combined management of dam Permanent Water Commission (PWC) was formed along with sub-committee/commission to implement the decisions of commission. The PWC deals with dams 'operation, periodical distribution of water and water usage of riparian states as per schedule, production of fish, proper cleanliness of dam and settlement of disputes between

## Importance of Institutional Arrangements in the Management of Kabul River Basin

operational staff of dam from both countries. Both riparian countries equally share dams in respect of fishing, irrigation and municipal/domestic requirements. After the end of the Soviet Union in 1991, Armenia became an independent country, but despite Armenians and Turks historical tense relations and in the absence of diplomatic ties, they continued cooperation on the dam consistently and did not involve political emotions (Altingoz and Ali, 2019).

### **Central Asian Republic Cooperation through IFAS and ICWC:**

Mr. Ikramuddin Kamil (Research Scholar, Faculty of Legal Studies, South Asian University, New Delhi) describes that the Central Asian Republics similarly manage their shared rivers (the Amu Darya and the Syr Darya) through joint institutions, inter alia, International Fund for saving the Aral Sea (IFAS) and Interstate Commission for water Coordination of Central Asia (ICWC) whose mandate is to resolve the issues related to water management and to implement common programs by following principles of collectivity and mutual respect of parties' interests. Afghanistan and Pakistan can take guidance from these, among others, institutions, and make an arrangement that can help avoid disputes and mutually solve the issues related to shared rivers (Email communication dated 02-02-2020).

### **Lake Chad Basin Commission (LCBC):**

The joint water access provides opportunity for dialogues to reach consensus, if due attention is not given then it may jeopardize peace and stability of the region. Lake Chad Basin is bright example of cooperation. Cameron, Niger, Chad and Nigeria formed in 1964 a basin commission to fairly deal with decreasing waters of lake Chad. On later stage, other riparian countries i.e., Libya and Central African Republic also joined the commission. The commission authority further extended to deal with regional security issues i.e., extremism, terrorism, arms trafficking, cross-border insurrections and uprising (Eliasson,2015).

### **International Boundary Water Commission (IBWC) on Colorado River and Rio Grande River:**

Mr. Gabriel E. Eckstein (Professor of Law & Director, Program in Natural Resources Systems Texas A&M University School of Law, USA) explains that in technical matters, there should be no politics. Un-biased studies require technical and scientific basis and agreement by both sides on the process for the studies & the exchange of information. Therefore, joint studies, joint venture, joint development, management and monitoring purely on technical grounds will pave the way for cooperation and sustainable development. Diplomats mostly deal with politics. They don't sometimes listen to technical experts/advisors. Diplomats should be trained in respect of water resource management, international Water laws, economics, climate, weather and environmental concerns. Such measures will definitely not only help the dialogue and cooperation process but also will lead to scientific and technical based durable solution.

There is a sound example of USA and Mexico cooperation over Colorado River and Rio Grande River. International Boundary Water Commission (IBWC) is run by totally technical persons/technocrats. Each country has office of the commission headed by a senior engineer. Both countries work together, propose projects and solutions. There have been 325 minutes (amendments) in Colorado/ Rio Grande

Rivers Treaty since 1944, but all minutes (amendments) are technical and projects-based requirements and also dealing with climate change, less rain fall resultant less storage, salinity, agriculture run off etc.

Further he agrees that some Minutes appear to be “amendments” to the 1944 treaty (only some of them appear to amend the 1944 treaty. The others truly are interpretations or implementation of the treaty), the two governments do not agree with this perspective and do not want the Minutes to be viewed as “amendments” since an amendment would have to go through a formal review and acceptance process in each government, which can take many years. Officially, Minutes are described by the two governments as “interpretations” or “clarifications” of the 1944 treaty that supplement the treaty’s implementation. It’s a technical difference, but very important since it gives the Commission the authority and ability to develop and implement projects under the Minutes system in a way that reduces the politics and allows the Commission to respond more quickly to new and changing circumstances. The IBWC adopted Minute 325 in October, 2020, in order to address the water debt that Mexico owes to the US. The new Minute 325 prevented a growing dispute between the two nations over the water debt, but, maybe more importantly, and has helped to minimize conflict that was developing in Mexico between the national government and local farmers and irrigation association. Minute 325 provided a technical solution for the problem, but was also a diplomatic achievement because of how it helped minimize conflict.

Moreover, conflict and cooperation co-exist. Pakistan and India have conflict and difference over Indus waters, but at the same time they are cooperating under Indus waters treaty through Indus Waters Commission. (email communications dated 17/18/28-10-2020).

### **Indus Waters Commission:**

For resolution of water disputes arising between India and Pakistan, Permanent Indus Commission is important. Commission comprises of experienced engineers, one each from both countries, from the field of hydrology. Both commissioners represent their respective governments on issues related to treaty. They act upon as regular avenue of communication on all affairs related to treaty enforcement. The functions of commission are: to evaluate and report any issue associated with development, to settle/solve the issue swiftly referred to commission, overall review and visit of sites of rivers, special inspection at any commissioner’s request. On the whole, the Commission deals with all notices, information exchange, inspection of sites etc. In this regard, the commissioners have privileges and immunities in other countries (Article VIII, (1,4,6), Indus Waters Treaty 1960). Indus Waters Commission is an instance of a technical body which collects and distributes data and information of proposed projects. However, the commission does not have discretion to prepare and enforce adaptive management to cope with changing conditions (Vick, 2014).

Syed Jamait Ali Shah (Former Pakistan Commissioner for Indus Waters 1993-2010) elucidates that the treaty clearly mandates to the Commissioner to implement the Treaty with other Party in view of design parameters, technicalities, engineering and all the legal aspects by safeguarding national interests (Email communication dated 07-11-2020).

## Importance of Institutional Arrangements in the Management of Kabul River Basin

If an issue is not settled by the commission than the matter may be forwarded to Neutral Expert or for Arbitration under Article IX Annexures F and G of the treaty. In Baghliar Dam dispute Pakistan raised the issue and matter referred to Neutral Expert in 2005 (Khattak, 2008) while in Kishan Ganga issue in 2010 (Biswas,2013) matter referred to Arbitration under the auspices of the World Bank. Keeping in view the changes in water resources, and differences over future development of infrastructure, the provisions regarding operation of Commission, Neutral Expert and Court of Arbitration given in the treaty are instrumental for peaceful settlement of differences or disputes. It is an example of operative mechanism. Pakistan and Afghanistan may develop an improved mechanism in Kabul River Basin by taking help from dispute resolution procedure described in Article 9 of Indus Waters Treaty (Indus Waters Treaty 1960, Article 9, Annexures F&G).

Syed Jamait Ali Shah (Former Pakistan Commissioner for Indus Waters 1993-2010) articulates that importance of institutional arrangement for the governance of Kabul River Basin is obvious. Pakistan does not have any agreement or a treaty with Afghanistan. In view of having common rivers with Pakistan and where Kabul Government is likely to expand her river water uses, it is very important to at least to have Memorandum of Understanding (MOU) on sharing of information about existing and future potential of uses of water by Kabul Government. Pakistan must also endeavor to have a treaty signed with Afghanistan before it comes too late.

For above, Ministry of Foreign Affairs in collaboration with Ministry of water and Power should formulate a mechanism like Indus Water Commission by taking into consideration all the grey areas appeared in the Treaty with India. Short comings of Indus Water Commission should be addressed while reaching consensus with Afghanistan. Peace time arrangements help to arrive at agreement which are always better than arrangements or agreements made under duress and tension.

At the same time Pakistan Government needs to strengthen the related institutions on sound scientific and technical footings. In India Central Water Commission (CWC) is working with 4 to 5 thousand engineers and the Indian part of the Indus Commission always take help from CWC for deputing engineers and technologist in the Indus Commission. Whereas, in Pakistan no such organization has the potential to coup up with needs by the Indus Commission.

The controlling Ministry of the Indus Commission does not take the ownership and the timely needed help by the Indus Commission. There has never been any technical body or think tanks as to advise the Indus Commission or to oversee its work/performance on continuous basis. The department has not been given importance in the past by considering the Indus Commission as a sub ordinate department of the Ministry. Further the political influence on the Commissioner during a certain regime has also affected the performance of individual experts working in the Commission. We don't have consistent policy and planning. If the individual is competent then he will run the institution effectively otherwise there is no proper and systematic functioning of the institutions. Institutions should be independent and specific with loyalty of state and not to political party in the government. Meaning thereby governments come and go but policy should be consistent. There should not be favoritism and nepotism and only right man for the right job is must.

Further, he suggests that the formation of a think tank on permanent basis consisting engineers, water experts, lawyers, scientists, diplomats, economists, experts from planning, trade, media etc., for giving expert opinion/ advice on policy issues. Again, while forming this high caliber standing panel (Mamma-chacha Culture) nepotism and favoritism should be avoided at all costs, otherwise the purpose is likely to be defeated (Email communications dated 03/05/06-11-2020).

Similarly, it is also pointed out that in Afghanistan majority of people get jobs/assignments in water sector on account of their relations rather than on their, experience, expertise, skill or education (Price et al., 2014).

### **Role of Communication and Cordial Relations in Institutional Set-up:**

To enforce international Cooperation for water management, its protection and usage is an uphill task. Cooperation is a product of prolonged dialogues and determined friendliness (Caponera, 1985). In this regard, dialogues, cordial relations and operative institutions facilitate to convert water deficient conditions into an avenue of better cooperation. Cooperation saves the cost and economically efficient as compared to conflict. But in the beginning to maintain and manage cooperation as negotiation and trust are its basic ingredients (Giordano et al, 2005; Wolf et al, 2003). There is need to develop a mechanism for sharing of information and data for pragmatic decision making in Kabul River Basin. But Afghanistan does not have good relations with Pakistan rather poorest of all neighbors (Price et al, 2014). This trust deficit situation needs to be overcome because creation of river basin institutions requires trust, communication and coordination.

Creation of institutional setup ensures constant communication which is necessary for stable relationship between riparian countries. Institutional measures will be instrumental for continuing success of joint use of Kabul River Basin. Likewise, institutions on common waters help in building long-lived relations. However, combined management and development require more efforts to make (Vick,2014).

### **Concerns of Afghanistan:**

For positive and stable water diplomacy, Afghanistan needs sound institutional and technical competence for bilateral and multilateral negotiations with riparian neighbors. In this regard, Afghanistan should take benefit from available globally applicable skills and knowledge whereas as government institutions in Afghanistan should embark upon concentrated research on hydrology, water management, hydro meteorology, climate change etc. Such research will ensure sustainable development when peace prevails in Afghanistan (Sadat and Nasrat,2019).

In Afghanistan, there is deficiency of technical knowledge, insufficient data, weak bargaining expertise and negotiating skills as compared to neighboring riparian countries. There is absence of public support on transboundary water dialogues due to non-awareness about the importance of water and apprehensions on trustworthiness of riparian countries' intentions to deliver benefits. Over and above, the presence of different stakeholders in transboundary waters issues in government of Afghanistan are the major concerns (Malyar,2016).

In Afghanistan, no one opposes the dialogues on transboundary water issue. There are two groups regarding timings of transboundary water negotiations. One is in favor of starting negotiations now and ultimate reaching treaty in future. The other

## Importance of Institutional Arrangements in the Management of Kabul River Basin

group is not in favor of negotiations, but to emphasis in improving scientific knowledge, technical capacity, bargaining expertise and institutional set up for future dialogues. However, there are recognized strategies to reduce apparent risks of water cooperation (Malyar,2016).

For rebuilding of water resource infrastructure along with improvement in institutional capacity for managing water resources, the Afghanistan government has made a plan on the basis of IWRM. The harmonious blending of Strategic Environmental Assessment (SEA) & integrated water resources Management (IWRM) will overcome institutional shortcomings i.e., water infrastructure development, capacity to manage and implement, availability and utilization of authentic information. It facilitates water services to maintain socio-economic recovery set up in post conflict period and promotes environmental governance (Habib et al, 2013)

### **Measures Taken by Afghanistan, Pakistan and World Bank:**

River Basin Organization is an active and operative way for implementing IWRM plans. In the year 2008, Afghanistan prepared the water sector strategy (WSS) with the support of international community. Under this strategy, Kabul River Basin Council was set up in Ministry of Energy and Water for establishing and restoring important power generation and water storage assets in Afghanistan. But this council did not share data and exchange information on common rivers/waters with Pakistan (ANDS,2008; MICT,2015).

The draft of Afghanistan Transboundary Water Policy has been approved in 2016 which is now waiting for Supreme Council approval. The policy contains the vision of cooperation with neighboring riparian states. In May 2016, an inter-Ministerial Transboundary Water Commission (TWC) under the chairmanship of President of Afghanistan was established along with transboundary water management unit (Inter Ministerial committee: IMC) in Ministry of Energy and water to improve collaboration on technical ground between different ministries on issues relating to transboundary water. TWC is avenue to discuss transboundary water issues. Though, there is no formal meeting of commission after its formation in May 2016 (Malyar, 2017).

In 2011, the Prime Minister established Pakistan Transborder Water Organization (PTWO) to deal with issues pertaining to development of dams and water sector schemes by upstream countries. It will present stance over development of water infrastructure by upper riparian countries which affect water rights of Pakistan [earlier a Kabul River Cell was established in Indus Waters commission under former Ministry of Water and Power Now Water Resources] (Kiani, 2011).

All Kabul River Basin Council, Kabul River Cell, Pakistan Transboundar Water Organizations, and Transboundary Water Commission did not play their effective role in Kabul River affairs so Kabul River is neither governed by a treaty nor managed by a commission.

The World Bank presented a proposal in June 2011 for setting up a system of combined management of Kabul River Water resources and settlement of disputes between Pakistan and Afghanistan through Management Commission of Kabul River Basin (KRB) by following the design of India-Pakistan Indus Commission.

The Bank emphasis was on institutional capacity building in both riparian countries specifically Afghanistan to promote collaboration and understanding by sharing of information exchanging of hydro-meteorological data and joint development plan of Kabul River Basin between Pakistan and Afghanistan (Dawn,2011).

### **Institutional Set-up with or Without Treaty:**

Dr. Glen Hearn (Consultant with World Bank on transboundary waters, Former Transboundary Water Advisor Ministry of Water and Energy Govt. of Afghanistan from 2012-2014) articulates that water tensions can exacerbate conflict in other areas as well. Arron Wolf work describes that water can be seen as a catalyst for cooperation when there is a functional institutional arrangement, like data sharing or developing joint understanding which acts to improve cooperation in times of water stress. In the absence of institutional mechanisms or functional arrangement, water stress can be a catalyst for miscommunication and discord.

Further, he explicates that River Basin Commission (RBC) is an ideal situation, but it could be a working group that meets occasionally, or even an MOU between ministries, or even an unofficial understanding (though that does not hold much weight). It is an institutional understanding (the more formal and detailed the better) which allows for relationships to be built, communication to flow, ideas to develop, interests to be voiced, and informed decisions to be made (either nationally, but preferably jointly) (Email communications dated 27/28/30-10-2020).

While, Mr. Ikramuddin Kamil expounds that in case of Kabul transboundary river, both Afghanistan and Pakistan should enter into negotiations. The first thing that they can do is to establish a nonpartisan commission consist of water engineers and international water law experts to study the Kabul River which is not legally governed by a treaty, present a report and then by the report of the commission and their recommendations both Afghanistan and Pakistan enter into a treaty (Email communication dated 02-02-2020).

Whereas, Mr. Hamid Sarfraz (Managing Partner Dev~ consult, Islamabad) emphasizes that no treaty can work effectively without a governing institution, such as Indus Waters Commission. So, if Kabul River Treaty is signed, there will need a joint commission to monitor its implementation and foster cooperation envisages under such treaty. Although treaty making is a long and time- consuming process, yet formation of institution is not feasible before entering into a treaty. In fact, the structure and mandate are negotiated during treaty negotiations so ideally it is created after signing or at least agreeing on the treaty (Email communications dated 06/07-11-2020).

Conflict resolution through joint institutions emphasizes the utility of treaty (Landovsky, 2006). Therefore, institution and commission may run on MOUs, but treaty is essential which gives a legal cover to commission and regulates the affairs in well-structured manners.

### **Views on Designs and Requirements of Institution:**

The design of institutions is important as it manages common water resources between conflicting states. The preferable designing is cooperative one. cooperative institutions which are managed and administered by resource users themselves for managing their joint resources, perform better (Ostrom, 2005). Mr. Mehmat



## Importance of Institutional Arrangements in the Management of Kabul River Basin

Altingoz (Environmental Engineer and Research scholar of Water Science and Policy, University of Delaware, USA) expresses that in some cases, these institutions avoid problems of international tensions between the sharing countries if they are formed by cross border technical personnel i.e., engineers, experts etc. who are not connected to politics (LinkedIn communication 14-06-2020 & 18-10-2020).

To take full advantage of the Kabul River Basin, water experts are united over integrated management and development on the basis of sharing of cost and benefits of the river which is better than one sided development and partitioning of river. Moreover, the natural catastrophes can also be avoided by Afghanistan, through cooperation and institutionalized management of KRB (Memon,2020). Institutions provide system for negotiation and data sharing and facilitate management of water resources to tackle varying social and natural situations. In Kabul river Basin, there is need of technical committee (Vick,2014).

A combined development system is essential through prioritization of options in Kabul River Basin by investigating avenues of development of various durations for different purposes i.e. industrial, mining, generation of hydro power, industrial, environment, water for agriculture/livestock, and residential/municipal water supply plans. There is need for implementation of unified approach for water resource governance and planning on basin wide basis in Afghanistan (World Bank,2010). Therefore, an organized institution is necessary.

Defined rules for special circumstances may be included in negotiation of agreement enabling parties to establish procedure for commission to adjust and modify management system as per requirement or operative need without amending the agreement. These mechanisms have been successfully implemented in other basins to handle variations over time. The significant fact is that ambiguity is predictable in negotiations and there are proper procedures to handle changing circumstances (Islam & Susskind, 2012).

### **Climate Change Adaptation/Environmental Protection and Institutional Set up:**

Shared waters are shared challenges which have potential of conflict and cooperation. They may be used as an opportunity to establish institutions for future planning. Active transboundary water management, softens political stiffness, reduces social insecurity, enhances cooperation and is helpful in climate change adaptation. (Cooley and Gleick, 2011).

The increased variations owing to growing international economy and change in climate are issues for managing transboundary rivers. Enforcement of active conflict system requires improvement in institutional capacity of riparian countries. Comprehensive water management improves security. Cordial relations of riparian states enable cooperative transboundary water management. Cooperation, by all means, is a suitable option (Petersen-Perlman et al, 2017).

Dr. Donald A. Wilhite, (Professor and Director Emeritus, Applied Climate Science, University of Nebraska USA) emphasizes that institutional capacity is critical to monitor and address changes in climate. For example, the existence of climate change adaptation plans, risk-based drought management policies, and hazard

management plans will continue to increase in importance. Also, global treaties such as the Paris Climate Treaty of 2015 and regional cooperation and collaboration within river basins will continue to be essential to manage changes in water availability (supply and demand) for countries (Email communication dated 06-08-2020).

Afghanistan has long mountainous terrain and semi- arid climate. It has undergone turbulence and turmoil for three decades. Afghanistan is a vulnerable country on account of its weak capacity to deal with climate change. (Ghulami,2017). It is necessary that international waters treaties should build capacity to overcome risks and uncertainties related to climate change. Adjustments in treaties and workability of institutional mechanism create capacity to address the expected impacts of climate change on the governance of international waters (Hearn and Paisley, 2013).

Dr Mara TIGNINO (Lead Legal Specialist, Platform for International Water Law, Geneva Water Hub, Faculty of Law and Institute for Environmental Sciences, University of Geneva, Switzerland) explicates that the recognition of the principle on the protection of a minimum environmental flow of an international watercourse is the most significant aspect of the 2013 Kishenganga Awards between India and Pakistan. The affirmation of this principle allows highlighting the functions of the Permanent Indus Commission in the field of environmental protection. Parties must provide the Commission with daily data on river flows and the information on the withdrawals of water from the reservoir (Article VI, par. 1 (a) et (b) of the 1960 Treaty). According to the judges, the Commission is the most appropriate mechanism to ensure the exchange of data and monitoring of the uses of the tributaries of the Indus River (Email communication dated 05-10-2020 & 19-10-2020).

Dr. M. Zia-ur-Rahman Hashmi (Head, Water Resources & Glaciology Section, Global Change Impact Studies Centre Islamabad) explicates that owing to the inadequate scientific research on the climatic uncertainty, there is increased vulnerability of Kabul River transboundary basin. There is need to deal transboundary climate change threat with policy interventions because non-consideration of this ecosystem would certainly result in larger conflicts which may weaken regional cooperation.

Further he enunciates that despite the rapid floods, there are prospects to set up combined water management system in Kabul River basin which will help to protect and prepare poor people from natural calamities i.e. floods, GLOF. To achieve better data quality and implement an effective early warning network expansion of climatological and hydrological systems are necessary. In this regard, coordination and cooperation between weather forecasting institutions of both countries are pre-requisite (Email communication dated 10-08-2020).

Successful adaptation of climate change lies in establishment of institutions to maintain flexibility and improved capacity to execute rearrangement/modification. The joint use of waters of Kabul River between Pakistan and Afghanistan is pivotal for maintaining regional harmony and stability. (Masood et al, 2018).

**Role of River Basin Institutions in Planning and Participation:**

There are numerous characteristics of water resources while it is hard to plan and use them. Durable management of transboundary rivers basins demands active and effective planning to settle different and conflictive claims and rights. (Pegram et al, 2013). The distributive planning and development of procedure for water apportionment at basin level involve variation and unpredictability regarding water availability. Water apportionment in large and complicated basins with globally recognized applicable practices can only be possible through organized institutions. (Speed et al, 2013).

Rising competition on deficient water resources has caused major changes in river basin planning for facilitating efficiency and settlement of competing claims of diverse sectors i.e. economy, agriculture, natural environment and overall society. The guidelines for long term basin planning and development along with improvement in environmental issues are vital. The techniques to conduct situational evaluation, managing uncertainty, understanding objectives, matching competing demands and developing innovative and responsive planning are also necessary (Pegram et al, 2013). In this regard, River Basin institutions are essential.

Participation of communities in planning prevent local conflicts whereas setting up of a joint commission will provide an institutionalized regional system of water management. Preferably, a commission comprising all riparian countries of the region would consider issues affecting water shortage like increase in population, climate change, large scale migration, agriculture and drinkable water requirements which can further aggravate conflict in future (Hessami,2017).

There has been judicious adaptation of the river basin as a unit of management by many Asian countries wherein unified, comprehensive, engaged and participatory approach to development, planning and resource management is being used which stabilizes societal, financial, environmental, climatic and ecological aspects. In some cases, it involves a detailed readjustment of geographic demarcation and administrative directives as compared with conventional and well-integrated/equipped sector management models/methods. Whereas in other cases improved quality of integrated management is followed by gentle and lenient measures like improved negotiation and interaction among various sectors and different management levels (Pangare et al, 2009).

**Efficiency of Local and National Institutions Transpires at Transboundary Level:**

An appropriate organizational system is necessary for coordination of various departments and ministries associated with water resources management. Ministries and agencies role should be determined categorically to avoid duplication and ensure efficient management (Qureshi,2002). Dr. Muhammad Jamal Khan (Former Chairman & Dean, Department of Water Management, University of Agriculture Peshawar, Pakistan) explicates that water treaty at transboundary level will be useful for efficient water resources management and food security. But efficient water resources management requires that institutions in Pakistan and Afghanistan at national, provisional and district levels should perform up to the mark for management of surface and ground water resources. This efficiency will transpire

at transboundary level in terms of better water usage, monitoring, future planning and sustainable development (Email communication dated 27-09-2020).

**Dispute over Water On account of Weak or No Institution:**

Dispute over water is an irregularity not a norm. Water shortage along with weak institutions further aggravates conflicts. Limited authorization, weak organizational ability and paucity of financing are the hurdles which hamper growth (UNDP, 2006). There more chances of conflict in the areas where institutions are destroyed due to political changes and swift changes in environment of resources (climate change) which exceed the capacity of institution to tackle the challenges emerging from change (Giordano et al, 2005). The chances of dispute increase as the pace of variation in basin surpasses the institutional power to handle the issue.

Mr. Said Hashmat Sadat (Project Manager with Sweco in Sweden and former Programme Manager at SIWI - Stockholm International Water Institute Gavle, Sweden) that both Pakistan and Afghanistan lack institutional capacity and hydro-diplomacy. If there are competent institutions, they would be able to establish a hydro-diplomatic negotiation process. (LinkedIn communication dated 05-11-2020).

Presently, there is no institutionalized system of collaboration and cooperation on waters of Kabul River exists which hinders cooperation and complicate the issues (Aziz,2007). However, Dr. Hassan Abbas (UNESCO Chair 'Knowledge Systems for IWRM', COMSATS Institute of Information Technology, Wah Cantt) explains that first there has to be a vision of future management... without such vision, the idea of any institution remains meaningless. Currently, there is no such vision (Email communication 12-01-2020).

**Conclusion**

The doubts and reservations in an intricate system of sharing water must be acknowledged and attended with adaptive management system. In this regard, the institutional mechanism in Kabul river will go a long way for effective use of Kabul river resources. It will enhance the relationship of both countries, based on shared waters.

Establishing Kabul water commission to discuss hydro-power generation, agricultural development schemes and flood protection measures will prove helpful. To facilitate commission, Pakistan and Afghanistan can set up a combined, comprehensive, scientific investigative task force for formation of a consensus based scientific and hydrological repository of Kabul river basin. This commission will work under the provisions of bilaterally agreed treaty between Pakistan and Afghanistan. If commission is established before conclusion of treaty under a MOU than it will facilitate both riparian countries to conclude a treaty which will also incorporate, consolidate and regularize the already established River Basin commission.

Bilateral coordination supports equitable and efficient water resource management. The durable and active basin scale institutional and legal system promote cooperation, secure water uses and avoid disputes. In other words, River Basin institutions/organizations promote integrated water resource management, coordination, consultation and basin-wide viable decision making.

**References**

- [1] Altingoz, M., & Ali, S. H. (2019). Environmental Cooperation in Conflict Zones: Riparian Infrastructure at the Armenian–Turkish Border. *The Journal of Environment & Development*, 28(3), 309-335.
- [2] A.N.D.S. (2008). Water Sector Strategy, Afghanistan National Development Strategy (ANDS) 2008-2013. *Kabul: Government of the Islamic Republic of Afghanistan*.
- [3] Aziz, K. (2007). Need for a Pak-Afghan Treaty on Management of Joint Water Courses. *Regional Institute of Policy Research & Training (RIPORE)*.
- [4] Bearden, B. L. (2010). The legal regime of the Mekong River: a look back and some proposals for the way ahead. *Water Policy*, 12(6), 798-821.
- [5] Biswas, A. K. (2013). Straining at the floodgates. *Indian Express* (Monday, March 04, 2013).
- [6] Caponera, D. A. (1985). Patterns of cooperation in international water law: Principles and institutions. *Natural Resources Journal*, 25(3), 563-587.
- [7] Cooley, H., & Gleick, P. H. (2011). Climate-proofing transboundary water agreements. *Hydrological Sciences Journal*, 56(4), 711-718.
- [8] Dawn. (2011). *Pak-Afghan Water Talks Under Way*. Dawn, <http://www.dawn.com/news/622243/pak-afghan-water-talks-underway> , 19 April 2011
- [9] Eliasson, J. (2015). The rising pressure of global water shortages. *Nature*, 517(7532), 6-6.
- [10] Ghulami, M. (2017). *Assessment of climate change impacts on water resources and agriculture in data-scarce Kabul basin, Afghanistan* (Doctoral dissertation, University of Nice Sophia Antipolis).

- [11] Giordano, M. F., Giordano, M. A., & Wolf, A. T. (2005). International resource conflict and mitigation. *Journal of Peace Research*, 42(1), 47-65.
- [12] Habib, H., Anceno, A. J., Fiddes, J., Beekma, J., Ilyuschenko, M., Nitivattananon, V., & Shipin, O. V. (2013). Jumpstarting post-conflict strategic water resources protection from a changing global perspective: Gaps and prospects in Afghanistan. *Journal of environmental management*, 129, 244-259.
- [13] Hessami, E. B. (2017). *Afghanistan's Water Plans Complicated by Worried Neighbors*. *The Wilson Center for Environmental Security*, March 20, 2017  
<https://www.newsecuritybeat.org/2017/03/afghanistans-water-plans-complicated-worried-neighbors/>
- [14] Hearn, G., & Paisley, R. K. (2013). Lawyers write treaties, engineers build dikes, gods of weather ignore both: making transboundary waters agreements relevant, flexible, and resilient in a time of global climate change. *Golden Gate U. Envtl. LJ*, 6, 259.
- [15] Hori, H. (2000). *The Mekong: environment and development*. United Nations University Press.
- [16] Islam, S., & Susskind, L. (2012). *Water diplomacy: A negotiated approach to managing complex water networks*. Routledge.
- [17] Jacobs, J. W. (1994). Toward sustainability in lower Mekong River basin development. *Water International*, 19(1), 43-51.
- [18] Khattak, A. R. (2008). World Bank Neutral Expert's Determination on Baglihar Dam: Implications for India-Pakistan Relations. *Pakistan Horizon*, 61(3), 89-108.
- [19] Kiani, K. (2011). "Transborder water authority set up," *Dawn*, September 27, 2011. <http://www.dawn.com/2011/09/27/transborder-water-authority-set-up.html>
- [20] Landovsky, J. (2006). Institutional assessment of transboundary water resources management. *UNDP Human Development Report 2006 Occasional Paper (36) 23*.

Importance of Institutional Arrangements in the Management of Kabul River Basin

- [21] Malyar, I. (2016). Transboundary water institutions in developing countries: a case study in Afghanistan. *Master of Science thesis, Oregon State University.*
- [22] Malyar, I. (2017). A Review of Current and Possible Future Relations in Kabul River Basin. *Duran. Research & Analysis.*
- [23] Masood, [A.](#), Mushtaq, [H.](#), & Hashmi, [Z.](#) (2018). *Water and peace.* The News, October 17, 2018  
<https://www.thenews.com.pk/print/381747-water-and-peace>
- [24] Media in Cooperation and Transition (MiCT). (2015). Orphan River: Water Management of the Kabul River Basin in Afghanistan and Pakistan. <https://afghanwaters.net/wp-content/uploads/2017/08/2015-KRB-Afg-Pak-SIWI.pdf>
- [25] Ostrom, E. (2005). *Understanding institutional diversity.* Princeton university press.
- [26] Pangare, G., Nielsen, T., Bhatia, A. M., & Makin, I. W. (2009). *Innovations and advances in basin management in Asia.* Discussion paper presented at ADB's 'Eye on Asia' event at the World Water Week, Stockholm.
- [27] Petersen-Perlman, J. D., Veilleux, J. C., & Wolf, A. T. (2017). International water conflict and cooperation: challenges and opportunities. *Water International, 42*(2), 105-120.
- [28] Pegram, G., Li, Y., Le Quesne, T., Speed, R., Jianqiang, L., & Fuxin, S. (2013). *River basin planning: Principles, procedures and approaches for strategic basin planning.* Asian Development Bank.
- [29] Phelps, D. (2007). Water and conflict: Historical perspective. *Journal of Water Resources Planning and Management, 133*(5), 382-385.
- [30] Price, G., Alam, R., Hasan, S., Humayun, F., Kabir, M. H., Karki, C. S., ... & Tuladhar, S. (2014). *Attitudes to water in South Asia.* Royal Institute of International Affairs.

- [31] Qureshi, A. S. (2002). *Water resources management in Afghanistan: The issues and options* (Vol. 49). IWMI.
- [32] Sadat, S. H., & Nasrat, S. (2019). *Afghanistan: Water management for peace. The interpreter, October 04, 2019*, <https://www.lowyinstitute.org/the-interpreter/afghanistan-water-management-peace>.
- [33] Speed, R., Yuanyuan, L., Zhiwei, Z., Le Quesne, T., & Pegram, G. (2013). *Basin water allocation planning: Principles, procedures and approaches for basin allocation planning*. Asian Development Bank.
- [34] Schmeier, S. (2012). *Governing international watercourses: River basin organizations and the sustainable governance of internationally shared rivers and lakes*. Routledge.
- [35] Schmeier, S., Gerlak, A. K., & Schulze, S. (2013). *Who Governs Internationally Shared Watercourses. Clearing the Muddy Waters of International River Basin Organizations*. (Earth System Governance Working Paper No. 28).
- [36] Treaty, I. W. (1960). between the Government of India, the Government of Pakistan and the International Bank for Reconstruction and Development, Pak. *India, Sep, 19(1960)*, 419.
- [37] Vick, M. J. (2014). Steps towards an Afghanistan–Pakistan water-sharing agreement. *International Journal of Water Resources Development*, 30(2), 224-229.
- [38] World Bank. (2010). *Scoping Strategic Options for Development of the Kabul River Basin: multisectoral decision support system approach*. Sustainable Development Department. South Asia Region, World Bank.
- [39] Wolf, A. T., Yoffe, S. B., & Giordano, M. (2003). International waters: identifying basins at risk. *Water policy*, 5(1), 29-60.