Journal of Political Studies, Special Issue, 2018, 177:190

Hydro Politics: A Conflict between Pakistan and India

Dr. Mubeen Adnan

Abstract

Water is an important component of human life. The wider use of water plays a major role for the development of economy and survivability of state. At present there is water shortage in quantity and quality all over the world. Pakistan and India share borders as well as Indus River. India uses water as upper riparian which surely affects the supply of water to lower riparian, Pakistan. Pakistan as an agricultural state fully depends upon water for the growth of economy. The Indus Water Treaty of 1960 provides more rights to India and her full control in access of Eastern Rivers and countering of Pakistan's water rights and growing water scarcity have led to an intense debate and concerns of hydro politics in South Asia. In South Asian region, India and Pakistan who have already complex relations, the hydro politics further worsed the situation due to limited fresh water supply. This research would analyze the mismanagement of water resources which existed within Pakistan and also analyzed the construction of Dams on Eastern Rivers by India as threatening for her. India's construction of water saving dams and hydropower plants on rivers Chenab and Jhehlum is alarming for Pakistan and creates conflicting situation between them. These water storage reservoirs are violation of Indus Water Treaty but India rejected all allegations put by Pakistan. Pakistan has many apprehensions over India's right to build these reservoirs. Pakistan herself is not successful in building up Kala-Bagh and Bhasha dams that is a serious concern for water scarcity within Pakistan. Climate change in Himalayas and Indian Ocean is an important issue to be discussed between them as Indus Water Treaty is unable to answer the question of climate change and its repercussions. The annual water flow in Indus is reducing. Water management policies and co-operation mechanism is required between Pakistan and India at this time when water scarcity is capturing the attention in South Asia.

Keywords: Hydro Politics, Indus Water, Low Riparian, Water Scarcity, Inter State, Intra State, Dams, Management

Introduction

Water is a lifeline. There is a water shortage globally and by 2030 according to an estimation, 60% of world population will be left from having fresh water supply (John, 2011, p. 1). Pakistan and India as neighbouring states share river water and this sharing is creating problem since independence of both states. Both states politicize water to fullfill their hydro needs. Hydro-Politics is the issue of fresh water scarcity in complex politics of India and Pakistan due to complication of trans-boundary river basins. In trans-boundary river basins states share the area of land that is given out by canal water and its tributaries. India is upper riparian state where as Pakistan is lower

`

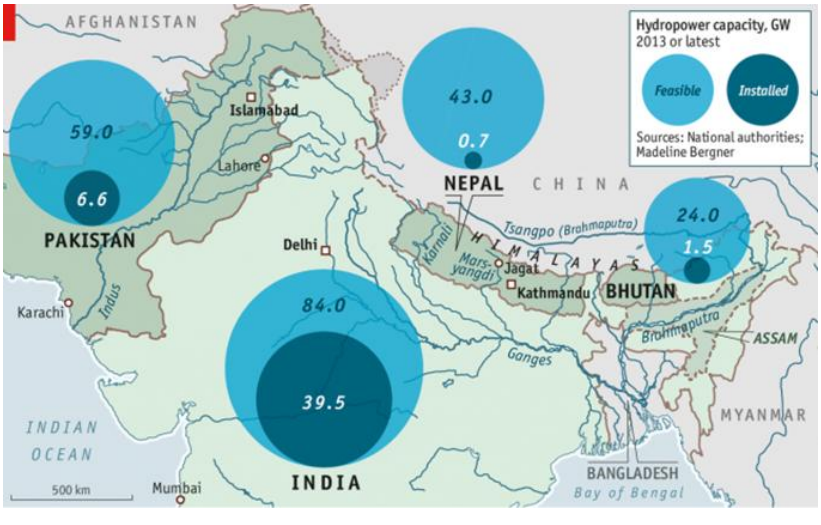
*Author is Assistant Professor, Department of Political Science, University of the Punjab, Lahore, Pakistan.

riparian. Indus basin irrigates about 4 million hectares of land in Pakistan, which is the largest area for which large amount of water is required. The main source for surface water in dry season of Pakistan is the melting snow for River Indus, Jhelum and Chenab.

Hydro politics deals with water related issues derived by surface and underground water, natural and artificial water resources of the basins within borders and outside the borders. It has prospects of conflict and cooperation. Some theorists say that water is a source of cooperation with good management through independent flow within different states but some other take water as a source of conflict. Due to shortage of fresh and ground water in India and Pakistan, political stress is increasing. This region has witnessed a rapid growth in population which means consumption of resources also have increased. Rapid urbanization increases the demand for drinking water. With economic growth and modernization, the discharge of chemical from factories and pollution have also reduced the clean water availability.

India is struggling to control or grab water resources and trying to dominate other states fresh water supply in South Asia. Fair distribution of water has been an issue throughout this region. Water dispute is scarcity issue on one hand and having the potential of security issue on the other hand in between India and Pakistan. Trans-boundary rivers are not only creating problems for agriculture, borders but also posed a threat to good relations for the rival states. Kashmir is crucial for water security of India. India is the largest state of South Asian region and sharing water with many states and having problems with all of them.

South Asia Hydropower Potential (GW)



Source: https://www.economist.com/news/asia/21635071-bad-politics-should-no-longer-prevent-nepal-and-its-neighbours-making-most-some-amazing

This map clearly shows the hydro-power capacity which is used and unused in South Asia especially in India and Pakistan. Pakistan has 59% feasibility of hydro power generation and she has used only 6.6 percent. For India 84% feasibility is available and she has only installed 39.5%. Both states are wasting available water for energy usages.

Narendra Kumar describes that water is a source, water is a commodity, water is a basic right, water is a culture and above all, water is a geo political (Kumar, 2011, p. 68).This description of water is totally applicable for India-Pakistan case. Indus Water Treaty of 1960 was a geopolitical drawing of water division. It did not encourage co-operative water sharing. This treaty solved the water stress between two independent states at that time. Decision makers of India and Pakistan are confronting each other on water crises.

Historical Review of Water Conflict and Indus Water Treaty 1960

After partition of Sub-continent, the newly independent states have the problem of division of supply of resources. Indus and Ganges parted between newly freed states of Pakistan and India. The parting dealt for Pakistan was between East and West. East part margined upper riparian of Northern and Eastern states of India. The Western part separated by state line crossways of Indus. India declared the entire Indus included all courses into the sea inside Pakistan. The partition of river ways and boundaries made Pakistan a weak irrigation based state. Pakistan has no control on its rivers main supply due to its geographical location. India has the main source of rivers. In April 1948 India stopped the canals water of Eastern Rivers. The two rivers Ravi and Sutlej irrigated Punjab province of Pakistan. Inter-Dominion Agreement of 4th May, 1948 on canals water was done and India re-opened the water supply to Pakistan. This agreement did not settle all issues of water but it worked until 1960 (Shahni, 2006:54).In 1951, David A. Lilienthal, former Chairman of the Tennessee Valley Authority and Atomic Energy Commission of USA visited India and Pakistan. He visited Indus river system and referred this case to International Court of Justice. The head of World Bank, Eugene Black suggested to solve the water dispute by sharing Indus system cooperatively. About eight years of discussions and talks on Indus Water Settlement, on 20th September 1960, Indus Water Treaty was signed by India and Pakistan. (Shahni, 2006, p. 58) According to this treaty, Eastern Rivers, Ravi, Beas and Sutlej were alloted to India and Pakistan will have claim over western rivers i.e Chenab, Jhehlum and Indus. India could use western waters only for non-expenditure usages and would not use these rivers for irrigation and storage purpose. A time period till 31st March 1970 was given to Pakistan to form link canal system to transfer water from eastern rivers. Both parties were banned to construct any type of construction which has ability to divert natural water route. It was also made necessary for India to report to Pakistan regarding framework of any type of construction on western waters before its starting and if India built any dam or barrage

on western rivers it is necessary to make downstream water availability within 24 hours (www.worldbank.org).

India and Pakistan stemmed the Indus River to supply for irrigation and hydro-electricity. Indus Basin system consists of river Indus and has different canals and tributaries, Jehlum, Chenab, Ravi, Beas and Sutlej that irrigated a huge area of 37 million land. Indus rise in and beyond the Himalayas and then through Kashmir, it enters into Pakistan (Sattar, 2007). After entering into Pakistan, all rivers combine with each other near Mithon Kot and at last at the southern province of Pakistan (Sind) it enters and outflow in the Arabian Sea. Most part of Indus lies in Pakistan and rest lies in India, Kashmir, Afghanistan and China. The second tributary Chenab flows through the Jammu region of the state of Jammu and Kashmir and then entered in the Red Indian state of Punjab. The other three tributaries Ravi, Sutlej and Beas each begins and streams in the course of India's state of Himachal Perdaish before entering into Indian Punjab.

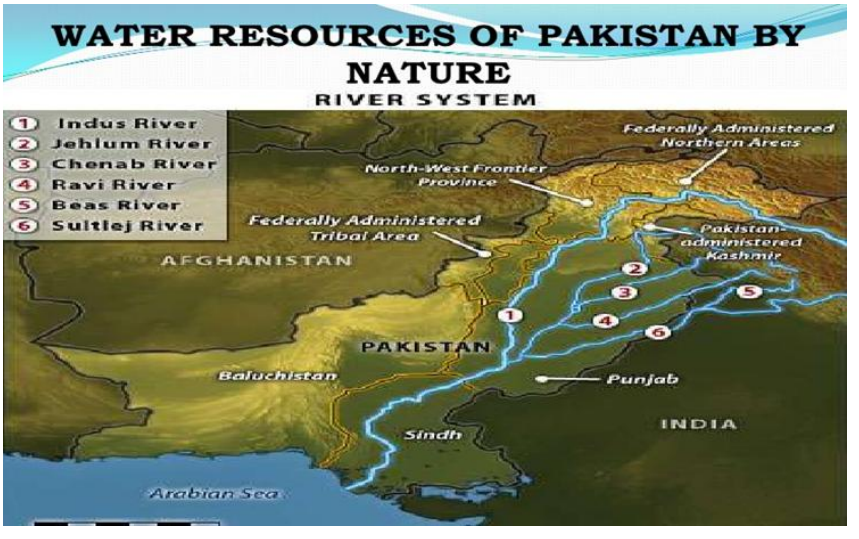
Indus Water Treaty provided an environment of collaboration and cooperation regarding measurement and released data of water flow discharge from basins, withdrawal at all inland waterways and link canals etc. between India and Pakistan. This treaty gives India an advantage to build storage up to a limited capacity on rivers that flow into Pakistan but India has started a number of projects on the western rivers irrespectively to consider the size and capacity of water storages and creating hurdles for good relations. Pakistan's protest on India for water saving dams in Jammu and Kashmir for electricity has generated doubts about India's credibility, requires changes in IWT of 1960. Climate change specially changes in monsoon season is an important constraint on the division of water between India and Pakistan.

Mismanagement of Water by Pakistan

There is an increase in the demand of water in Pakistan but the supply side is deficient in fulfilling the resource requirements. It is an alarming situation for Pakistan as the per-capita water availability is 908 cubic meter from 5,260 cubic meter in 1951 and Pakistan can store only 10% of its annual water flows, which would ended only within 30 days (The Nation, October, 7, 2017). Indus Basin is the major fresh water reserve of Pakistan. Pakistan has serious issue of decrease in ground water quantity as well as quality.

The ground water level which used to be 15 to 20 feet in 1971 from the ground has gone low to 90 feet in 2014. On average 32 million acre feet (MAF) per year of fresh water is flowing down to Arabian Sea and if stored it would fulfill the requirements of water for Pakistan (Ali, Iqbal 2015, pp. 126-127). Arsenic contamination of the ground water is reached at a dangerous level. Water related diseases are increasing day by day. The water which the people of Pakistan have polluted does not allow a relaxed attitude towards water use in efficiencies in household and in agricultural irrigation. By not making water reservoirs, Pakistan is fully dependent on flowing

water of rivers Chenab, Jhehlum and Sind. Kalabagh, Bhasha and Dasu Dams, Akhori on tributary of Indus and Rohtas Dam on tributary of Jhelum can be started right away. Non planning of water usage of fresh as well as for ground water is a real hurdle from Pakistani side.



Source:https://www.google.com.pk/search?q=maps+of+water+resources+of+Pakistan

Human Development Report on water scarcity describes scarcity is a policy induced consequences of mismanaged resources (2006, p. 133).This report also defines "water wars taking place in the case of trans-boundary water resources, it does concede as competition for water intensifies within countries, the resulting pressures will spill across national borders" (2006, p. 19).Water mismanagement is an intrastate issue as well as interstate between India and Pakistan.

For intrastate water resource management, following points must be considered for Pakistan,

1. To discuss and analyze the problems of national river resource and development projects/plans.
2. To highlight the inefficiencies/weaknesses related to irrigation uses of water supplies.
3. To explain the system and structural problems related to the mismanagement of water resources and challenges existed within state.

For interstate water management following considerations must be properly evaluated/ analyzed by Pakistan.

1. The challenges on hydro policy makers from outside the state as co-riparian do come in a way.

2. For co-operation between co-riparian sates, a comprehensive plan of sharing and management of Indus River is needed.

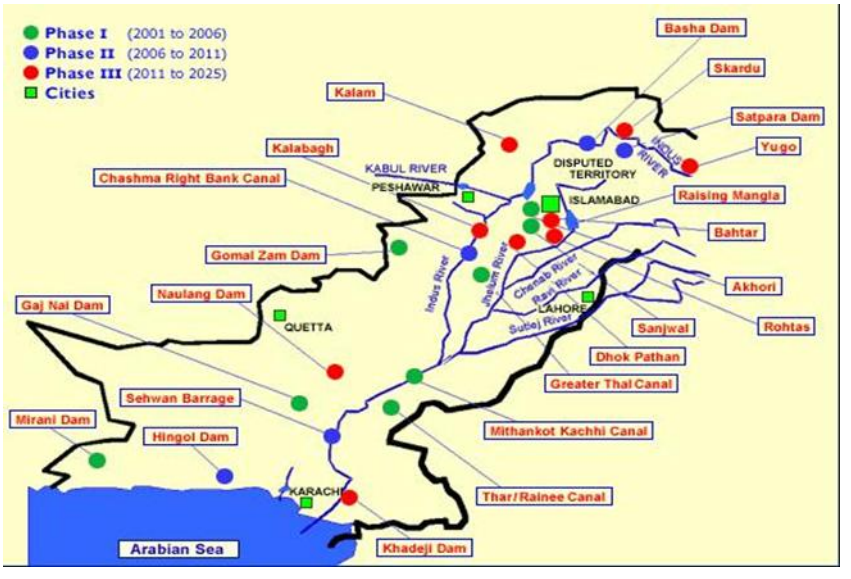
3. When dams in India are built on shaky grounds then what choices comes for Pakistan?

However, the domestic management of hydro resources and rest of the considerations pointed fingers towards India. So what is the performance of Pakistan? What Pakistan did uptil now, that's the point this paper is going to highlight the poor governance for water management by Pakistan. Interstate politics emphasis on the solution of water scarcity through proper management of the river basins (Turton & Henwood, 2002, p. 12). Pakistan's failure in management can not only be explained by blaming India, it must be explained where co-operation is lacking, where bad governance is existing domestically, not less than India's bullying, aggressive and irresponsible attitude is existing.

Pakistan in the world has one of the lowest storage capacities. On the construction of Kalabagh Dam project, Pakistan is experiencing intra-state hydro- politics. All the three provinces, KP, Sind and Balochistan are against the construction of Kalabagh Dam in order to stop the already pampered Punjab. These provinces are preferring their own interests over national interest. All four provinces of Pakistan are consuming water from Indus basin but the distribution of water has been a serious issue among them. No political leader has taken the risk of initiating solution of water management among all provinces over the Kalabagh Dam.

Constructions of dams in Pakistan will prevent the wastage of water flowing to the sea. It ought to be understood that Kalabagh Dam is not Punjab's project, it is for entire Pakistan. It must be discussed the royalty issue with KP by the federal government. Political tussel and trust deficit is seen among provinces. National consensus on this issue is required. Lahore High Court on 29th November 2012 gave verdict that it was government's duty under article 154 of the constitution to start the construction of Kalabagh Dam (Khalid & Begum, 2013, p. 18). This dam is the victim of hydro politics in Pakistan. It is only the government's responsibility to sub-merge provincial interests into national interest.

Pakistan's Dams Construction Plan



Source: http://www.pakistanaffairs.pk/threads/58713-Construction-of-Hydropower-Projects-and-Dams

Pakistan's decision to construct Diamir-Bhasha Dam is feared in India and within Pakistan that it will submerge sizeable shares of Jammu and Kashmir and province Sind (Pakistan) and water will be diverted to Punjab province of Pakistan. India raised objection on Pakistani project of Diamir-Bhasha Dam and Pakistan argued that the area is recognized by United Nations as disputed territory so that it is not violating the terms of Indus Water Treaty. Pakistan is facing internal and external politics over its suggested hydro projects and has become a political issue instead of water regulation. New water reservoirs would store flood water in monsoon season for productive use and save crops from huge damage to overcome the electricity crisis. Flood water lost to the sea for years 2010 to 2014 periods is about 90.27 million acre feet (MAF), which is equal to 10 Tarbela Dams and if stored in Kalabagh Dam it would have generated 30476 MW electricity for energy deficient Pakistan (Ali, 2015, pp. 114-115). Many water projects have been under discussion but nothing has been materialized. Mr. Shafqat Kakakhel, former ambassador and former official of the UN environment Programme, stated that big dams are not the best solution of diverting and storing flood water. He emphasis on to change the irrigation system in Pakistan as about 60% of water is wasted by the out dated canal and irrigation system. (www.dawn.com/news/1132514). For water use efficiency and to prevent water shortage different new techniques and ways should spread all over in Pakistan.

Pakistan's Objections on Indian Projects

For Pakistan a lower riparian state, the construction of dams by India is threatening for her and then the water scarcity issue is converting into security issue between them. John Herz describes the security dilemma in International Politics to explain a situation where states indulge in competitive arming as a response to the uncertain intentions of each other. It sets in motion a vicious circle and states find themselves unable to break out of it (Kumar, 2011, p. 70). Due to acute shortage of irrigation water in Indian Punjab and elsewhere in India, India is searching for additional water to be injected in her system for catering the demands of increasing population.

At the moment both are not declaring water as their war aim but statements from both sides is putting fuel on it like Baghliar Dam issue. After World Bank analysis, Pakistan said that this dam will allow India to control river waters for its military intervention and Indian statement is pointing fingers on Pakistan for objecting her project. Neelum-Jhelum project of 796MW of power and Kishenganga 330 MW projects will again give threat to Pakistan as low riparian state. These projects will lead water scarcity in Pakistan and will give way to security issue which will lead towards war.As the famous phrase says, "more crops per drop" and for India and Pakistan it also matters who gets what, when and how? as defined by Harold Lasswell (Kumar:74).

India is dealing this matter very tactfully and working on a number of water storage and hydro power projects. Pakistan has objection on the following projects.

- Salaal hydro power project in Kashmir on River Chenab was the first project on which Pakistan protested over the plan project and storage capacity. This dam was diverting water flows to

Western Punjab. In 1978, through talks this matter was successfully

resolved and India shared details with Pakistan.This is considered successful mediation over water (Siddiqui, 2016).

- Wullar Barrage project is the second controversial project between

India and Pakistan on Jhelum River in Kashmir. Barrage predicted a lake on Jhelum river and enters into Pakistan administered Kashmir. This Barrage is termed asTalbul Irrigation project on Wullar Lake in India. It is the largest fresh water lake in Kashmir. The construction was started in 1984 and was stopped in 1987 after Pakistani objection.This project comes under the principle of non-routing use of water supply. It is still unresolved, about 10 rounds of talks were presented without any resolution (Siddiqui, 2016).

- Baglihar Dam, a hydro power project on river Chenab in Kashmir was started in 1991 and its first phase was completed in 2005 and second in 2008. Pakistan raised objection on its design, storage and control on water flow of Baglihar Dam. This will considerably affect water flow to river Chenab and

particularly two link canals originating from Head Marala, Sialkot. On 18th February 2013, the Court of Arbitration administered in favour of Pakistani objections. (Walton, 2010).

- Kishanganga is a 300MWpower project predicted inter-tributary transfer of waters of River Jhelum by India. Construction of the project started in 2007 and completed in 2016.This project will divert Neelum river up to 100 km and water supply to Neelum valley will be affected considerably. It would destruct Pakistans Neelum-Jhelum Project of 900MW downstream of Kishanganga(Neelum) whose construction is under process in Noshera, Pakistan. Pakistan raises objection on the structure, size and height of Kishanganga project. Court of Arbitration on 20th December 2013 stresses that India will have to sustain smallest amount of water flow but does not comprise full rights to reroute werstern waters and allowed India to proceed with the construction (Bansal, 2005).
- Ratle is a 850MW hydro power project, which was completed in 2016 on river Chenab. This project causes shrink water flow of Chenab river by 40% at Head Marala and it is three times larger than Baglihar project. Pakistan raised objection over its size and height. (https://www.power-technology.com/projects/ratle-hydroelectric-power-plant-jammu-and-kashmir).

- Dul Hasti hydroelectric plant is on River Chenab in district Doda in

Kashmir. It was started in 1985. It is a 390MW power plant. Pakistan claimed that it was a full fledge dam as Baglihar. However the impact of this project is not soworse. It will only affect water supply up to 1-2 days. This project is completed in 2007. (https://www.slideshare.net/KarthikMuraliIyer/dulhasti-power-plant-case-study).

- Uri-II Hydel power project is of 240MW, on River Jhelum in Baramullah District in Kashmir. It is downstream of Uri I. Pakistan raised objection and raised voice on it as it's the violation of Indus Water Treaty 1960. Pakistan asked for details in October 2002 and India provided some details in April 2006 After few improvement in construction it is running since 2011. (https://www.power-technology.com/projects/uri-ii-hydroelectric-project-jammu-and-kashmir/).
- Nimoo-Bazgo is the run of river 45MW project in Ladakh in India held Kashmir. Construction started in 2006 and completed in 2010.India submitted its design during Indus Commissioners meeting to Pakistani government on 29th March 2010 and Pakistan showered its fear that the project might block Pakistani water supply and that the project design is expected to have Indian control on water courses. (https://tribune.com.pk/story/315760/nimoo-bazgo-project-pakistan-to-take-dam-dispute-to-world-court/
- Bursar dam is a reservoir based hydro-electric plan built on Pakistani river flow on Jhelum and Chenab. India can stop the whole River Chenab water in winter season. The hydroelectric potential will be 1020MW. This dam is intended to use for storing extra electricity production. (https://www.dawn.com/news/857662).
- Chutak and Dumkhar projects are on the river Indus in Ladakh completed in 2011. Pakistan objected its construction as India has already started constructing two canals for watering in Leah and Kargil regions. So India has no right to construct dam on Indus. But India argues that its not a water storage project and will not effect Pakistan's water.
- India is planning power plants in Kiru a concrete dam of about 600MW and Pak Dul a basin of 1000MW on the western river Chenab (www.youtube.com).

It seems the distribution under Indus Water Treaty gives India autonomous power over Indus and its tributaries. India also takes advantage from non-rooting law and adjusts it in principles of Indus Water Treaty. Pakistan has many apprehensions over India's water right under Indus Water sharing. Indian dams are making Pakistan as sufferer. All the talks over dams and hydro electric projects did not give any benefit to

Pakistan. India is holding power over the three rivers water of the western side. India can use water as a tactical instrument to disturb Pakistan.

Due to population pressure and water shortage India is determined to construct hydro power plants on Chenab and Jhehlum rivers. India has not been informative in sharing data of engineering features about all the water projects as it's a rule under the provision of the treaty. International law gives power to Pakistan to know every information regarding water usage from her rivers (Gleick, 1993, p. 108).The structures and storage capacities of Indian projects can slow down water flow for Pakistan. Geologist Mr. Bashir Ahmad from Srinagar, Kashmir gave a warning to Pakistan about Indian future intentions regarding Baghliar Dam as Indians "will switch off to make Pakistan solely dependent on India. It's going to be a water bomb" (Ali, 2015, p. 225) American Senate also gave an assessment on Baghliar Dam, "the cumulative effect of (many dam) projects could give India the ability to store enough water to limit the supply to Pakistan at crucial moments in the growing season" (Ali, 2015, p. 226).

Co-operation between Pakistan and India

Co-operation between Pakistan and India regarding rivers water is severely limited due to the history of rivalry, trust deficit, policy priority by leadership and lack of institutional dialogue and compromise. Management of water resources in India and Pakistan is working under the burden of bureaucratic political set up (Wirsing, 2007, p. 7). Policy makers are not too serious to resolve this matter on urgent basis. Pakistan as a lower riparian state is downstream state, water dependent on India would happy to come to the table for water management talks but how can India come for "new regime on the Indus" www.dawn.com/news/1132514). It might be for transparency and neutrality of data of water resources for independent as well as joint projects to benefit both sides of people. For this, third party role is important and how to convince India. It is important to build a bridge over troubled water of Indus. It will only possible when the political leadership of India as a big brother would come forward and join hands with Pakistan and start co-operation. It seems un-realistic but not impossible. For managing water both states need continuous dialogues and discussions. It should be the priority of both states governments to find solutions to water security for their respected masses. Hydro resources reforms needed at urgent scale. Once John F. Kennedy stated that "Any one who can solve the problems of water will be worthy of two Nobel prizes, one for peace and one for science"(Ali, 2015, p. 129)

A comprehensive plan for the joint management and development of shared international river basins is an urgent requirement. There is a need to form a new treaty for Indus waters, considering the environmental constraints on water supply and availability.

Bilaterally between India and Pakistan, political will is required to set up cooperation on water reserves. India should end its hegemonic politics as an upper riparian state between India and Pakistan. The possibility of future wars on water resources must be avoided with cooperation between India and Pakistan.

Conclusion

Water is an asset which is facing shortage in the whole world. Globally, it is projected to save every drop of water for the next generation. Due to poor water management, low agricultural productivity per unit of water, rapid population growth and environmental constraints are creating water scarcity issue in Pakistan. As the flow of fresh water from India towards Pakistan is decreasing due to Indian hydro-projects, the Indian leaders are clear in their mind and committed to the welfare of their people by grabbing water as much as possible of the remaining three rivers of Indus, Jhelum and Chenab. Pakistan should save the water by making dams and minimize its flow to the sea. Pakistan needs to change her practices in agriculture. The crops should be cultivated which need less water. A broad spectrum vision is required. If proper arrangements are not made to store water then to fulfill the fresh water demand will come from irrigation water, which will put more pressure on the volume of water needed to produce food for the increasing population.

On water sharing issue Indus Water Treaty of 1960 must be reviewed and up-graded according to the environmental restraints. It is not suitable for current water resource management. The dispute over treaty implication and rights over Eastern and Western rivers need proper supervision by an external state or commission is needed.

India must exchange information about water plans; power generation projects so that Pakistan can take precautionary steps to avoid flood and water dry. The performance of Pakistani policy makers regarding water management is pathetic and on the other end, Indian politicians are trying to scarce Pakistan and made her dependent on India.

Pakistani leadership must gather courage to take some difficult decisions. Pakistan has signed the Indus Water Treaty in 1960 and when the treaty is violated by India, as a stronger state of the treaty, no one comes to help her. History shows that might is right. A series of small and large dams for water storage and energy with changed methods of irrigation should be the priority of planning. Hydro-diplomacy at intra-state and inter-state level is a major tool against hydro-hostage politics of Pakistan and India.

References

Ali, Iqbal. (2015), *Undeclared Water War on Pakistan: Tactical and Strategic Defence Measures*, Lahore, Allied Book Company.

Bansal, A. (2005), Baghlihar and Kishanganga: Problems of trust. India, Accessed on 12-12-2017 from http://www.ipcs.org/article/india/baglihar-and kishanganga-problems-of-trust-1762.

Briscoe, John. (2010), Troubled Waters: Can a Bridge Be Built over the Indus? *Economic and Political Weekly*, Vol. 45, No. 50 Accessed on 02-01-2018 from http://www.jstor.org/stable/25764211

DulHasti Power Plant Case, Accessed from https://www.slideshare.net/KarthikMuraliIyer/dulhasti-power-plant-case-study

Fact Sheet: The Indus Water Treaty 1960 and the World Bank, Accessed on 19-12-2017 from www.worldbank.org

Gleick, P.H. (1993), "Water and Conflict: Fresh Water Resources and International Security", *International Security*, 82-110

Human Development Report (2006), "Beyond Scarcity: Power, Poverty and the Global Water Crisis", New York, UNDP.

https://www.google.com.pk/search?q=maps+of+water+resources+of+Pakistan

India set to build 1000 MW Pak Dul project on Chenab River following into Pakistan, www.youtube.com.

India Plans Dam on River Chenab, *Dawn*, Febraurary 22, 2010 Accessed on 12-12-2017 from https://www.dawn.com/news/857662

John, W.(2011), *Water Security in South Asia: Issues and Policy Recommendations*, Observer Research Foundation.

Khalid, I. & Begum, I. (2013), "Hydro Politics in Pakistan: Perceptions and Misperceptions", *South Asian Studies*, Vol. 28, No.1, p.18.

"Nimoo-Bazgo Project: Pakistan to take Dam Dispute to World Court", *The Express Tribune*, January 3, 2012, Accessed on 18-12-2017 from https://tribune.com.pk/story/315760/nimoo-bazgo-project-pakistan-to-take-dam-dispute-to-world-court/

Pakistan Floods trigger fresh dam debate, Accessed on 17-9-2018 from (www.dawn.com/news/1132514)

Ratle Hydro electric Power Plant, Jammu and Kashmir, Accessed on 20-12-2017 from (https://www.power-technology.com/projects/uri-ii-hydroelectric-project-jammu-and-kashmir/)

Shahni, H.K. (2006), *Politics of Water in South Asia: A Case of Indus Water Treaty*, SIAS Review, 163.

Shaheen, Akhtar.(2010), "Emerging Challenges to Indus Water Treaty(issues of compliance and Transboundary impacts of Indian hydro projects on the Western Rivers" *Regional Studies*, Islamabad, 1-86

Siddiqui, A. Hussain. (2016). "Troubled Water, *The News*, http://www.thenews.com.pk/magazine/instep-today/166376-Troubled-water

South Asia's hydro-politics, water in them hills, https://www.economist.com/news/asia/21635071-bad-politics-should-no-longer-prevent-nepal-and-its-neighbours-making-most-some-amazing

Tripathi, K Narendra. (2011), "Scarcity Dilemma as Security Dilemma: Geopolitics of Water Governance in South Asia" *Economic and Political Weekly*, Vol. 46, No. 7 pp. 67-72 Economic and Political Weekly Stable URL: http://www.jstor.org/stable/27918149 Accessed: 15-11-2017 07:05 UTC

Turton, A. & Henwood, R. (2002), *Hydropolitics in the developing World: A Sout African Perspective*, Pretoria: African Water Issues Researcg Unit.

Uri-II Hydroelectric Project, Jammu and Kashmir,Accessed on 20-12-2017 from (https://www.power-technology.com/projects/uri-ii-hydroelectric-project-jammu-and-kashmir/

Wirsing, Robert G.(2007), "The Domestic Roots of Interstate River Rivalry*" Asian Affairs*, Vol.34, No.1, Spring pp. 3-22.www.jstor.org/stable/30/73030 Accessed on 22-11-2017