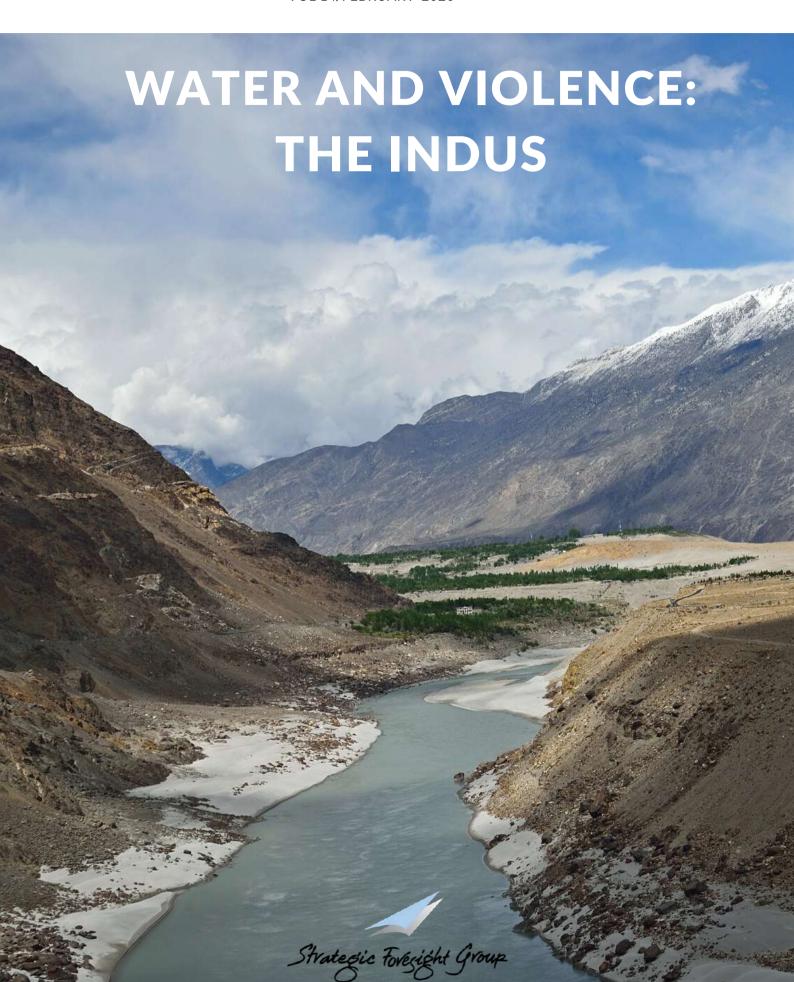
BLUE PEACE BULLETIN

VOL 14/FEBRUARY 2020



Rhetoric over the Indus River has been a source of tension between India and Pakistan over the last many years. While the Indus Water Treaty has prevented major conflict over the water, simmering tensions remain. This issue of the Blue Peace Bulletin examines the current situation and makes recommendations on how to build cooperation.



Introduction

India-Pakistan water relations have been traditionally marred by confrontational rhetoric much of it unnecessary. The body of water central to the relationship between the two countries is the Indus River System. The Indus River System contributes 4 per cent of India's water resources whereas it contributes almost 70 per cent of Pakistan's water resources.

The Indus Water Treaty (IWT), which codifies the division and management of the waters of the Indus, is very strong with regards to the allocation of water and the arbitration of disputes. However, when it comes to creating the basis for actual cooperation, the Treaty is rather weak.

The arbitration mechanism of the Indus Water Treaty has made it possible for India and Pakistan to settle their disputes thus far. The real challenge lies in building on the Treaty to foster active and meaningful cooperation that can build long-lasting stability in the region. In this regard, the treaty falls short. On the one hand, the IWT allows both India and Pakistan to pursue their individual interests without much need for water-based cooperation. On the other hand, the IWT has not cooperation on increasingly vital encouraged issues such as integrated river basin management. information sharing, climate change adaptation and disaster and mitigation, management measures. Thus far, water disputes between India and Pakistan have arisen because of the different interpretations of the IWT on both sides.

Many of the problems between India and Pakistan have arisen over hydropower projects on the Indus River system. As per the IWT, India has the right to build only run-of-the-river projects on the Western rivers of the Indus, allocated to Pakistan, i.e. Indus, Jhelum and Chenab in order to generate power. However, Pakistani officials have disputed every single project that India has attempted to get under way.

Disputes have arisen over the Baglihar Dam, Kishanganga Hydroelectric Project, the Bursar Dam and the Wullar Barrage.

As the arbitration clause of the IWT is rather strong, issues such as the ones over the Baglihar and Kishanganga have been resolved through neutral third parties or through the Permanent Court of Arbitration. The Awards adjudicated by the third parties have been accepted and implemented by both India and Pakistan.

Therefore, it should be possible for the two countries to move from mistrust to cooperation. However, Pakistan continues to suspect India's intentions for dams built on its side.

Often, responsible members of the Pakistan Government call for introspection and cooperation, instead of resorting to rhetorical and legal battles all the time. S M Qureshi, Foreign Minister of Pakistan has said that conveyance losses within Pakistan account for more than 40 per cent. If these are managed properly, the supply-demand table can work to meet the needs of the growing economy. He has argued that therefore it is not productive to enter into a confrontational discourse with India. However more at the United Nations General Assembly in 2018, he said that the friendship between India and Pakistan should not be pursued until water dispute is resolved and India continues its biased attitude on the water issue with Pakistan.

The Current Situation

Pakistan's Minister for Water and Energy has warned that the country could face serious water shortages within the next 6-7 years. Several scientists suggest that through a combination of unsustainable practices, poorly maintained infrastructure, deepening divisions between the provinces over water security, lack of foresight, widespread corruption in the water sector, pollution and over-abstraction, Pakistan's water resources could soon be on the brink of depletion.

Pakistan's water usage of its total water resources is at 74 per cent. To compare with other countries in the region, India uses 40 per cent of its water resources, while Nepal and Bangladesh use less than 10 per cent of their total water resources annually.

Rapidly increasing demand for water has led to high rates of groundwater abstraction, leading to greater salinity and saltwater intrusion. Pakistan's population has increased by nearly six times in the last 65 years; correspondingly, the stress on the freshwater in the country has increased. Freshwater demand is primarily from the agriculture sector for irrigation purposes as Pakistan has one of the largest contiguous irrigation networks in the world. Other factors driving demand are hydro-electricity and storage.

Pakistan has also had historically inefficient and outdated water management practices. The irrigation sector has some of the lowest conveyance efficiencies in the world. Irrigation efficiency in the Indus River Basin is only 40 per cent.

India has a per capita water availability of 1458 cubic meters per annum. It is presently above the threshold level for water stress but in some parts of the country, groundwater levels are dropping. India has also had interstate issues, though mostly outside the Indus River System.

Temperatures in the region could rise by 2.7-4.7 °C by 2100 according to the Intergovernmental Panel on Climate Change. The expected rise is 3.3 °C. This will have a major impact on the glaciers that feed all Himalayan rivers, including the Indus River System.







In the short term, it is expected that the greater rate of glacier melt will lead to rise in the amount of water in the Indus, potentially leading to more frequent instances of flooding. However, in the long term, as the glaciers shrink, the contribution of the glaciers to the rivers will decline. This will lead to an overall decline in the total annual flow of the river, creating a major impact during the lean season or the winter when the river is dependent entirely on glacier melt.

A significant portion of the water in the Indus is from rainwater. The rising temperatures in South Asia will also impact the monsoon, making them more erratic. The instances of flash floods are expected to increase. The arrival times of the monsoon may change, impacting agricultural production in both India and Pakistan.

The internal problems in both the countries have nothing to do with bilateral water relations. The need of the hour is to examine the potential of cooperation, not only for responding to climate change and natural disasters, but also for improving the livelihood of people living in the basin. The Indo-Pak water relationship facilitated by the IWT is not considered 'active' water cooperation.

India and Pakistan have a low Water Cooperation Quotient. The international tool constructed by the Strategic Foresight Group measures water cooperation in 286 shared river basins in 148 countries. The Indus Water Treaty scores a low Water Cooperation Quotient of 20 despite being what is often considered a successful example of a functioning water treaty. This is primarily due to the fact that the Treaty only deals with water allocation and has not been used for collaborative endeavours to respond to climate change, joint disaster management, joint planning and exchange of information and expertise. Thus, the IWT is not a treaty of cooperation. It is a treaty about allocation and provisions for arbitration.

The Water Rhetoric

In Pakistan, water has been used as a rhetorical tool in the foreign policy discourse. In the 21st century, this water-based rhetoric has escalated and spread, especially as a result of proliferating media sources. India's alleged 'water aggression' is routinely blamed for Pakistan's internal issues, and war over water is often referred to in the media, especially during the drier months of the year. The use of such rhetoric is viewed by right wing groups and platforms as a tactic to radicalize Pakistan's public opinion against peace and stability in South Asia.

Prominent influencing forces such as the Nazaria-i-Pakistan Trust freely espouse violent responses to what they have framed as India's 'aggressive actions'. Meetings and seminars convened by the Trust have repeatedly accused India of conspiring to convert Pakistan into a desert. These meetings are attended or chaired by influential members of Pakistani society such as the Chairman of the Trust, the late Majid Nizami who was also the Editor in Chief of the Nawa-i-Waqt group of papers as well as by Lashkar-e-Toiba leader Hafiz Saeed. A few years ago. Nizami stated at a book release function organized by the Nazaria-i-Pakistan Trust that the only solution to India's 'water bomb' was the 'atom bomb' and also advocated war to resolve the water issue with India. At another Nazaria-i-Pakistan Trust event, Nizami reiterated the idea that Pakistan should use its nuclear weapons to respond to India's alleged actions on Pakistani rivers.

Hafiz Saeed, while speaking at a seminar at the Hamid Nizami Press Institute in January 2013, claimed that Pakistan was suffering through its worst energy crisis due to India's water terrorism. During the speech, he also appreciated the Nawa-i-Waqt Group of papers and the Chairman of the Nazaria-i-Pakistan Majid Nizami for their work in highlighting the issue.



The extremist views and rhetoric of the Nazariai-Pakistan Trust and its allies against regional peace on this matter show a disturbing trend as such views have the potential to percolate down to the citizen, given the reach of the Trust, as well as the Nawa-i-Waqt group of papers.

The Al Qalam Weekly published in Pakistan has regularly raised the issue of water wars between India and Pakistan. In July 2018, an article even refereed to water as a "friend of jihad", especially in relation to India.

Syed Salahuddin, commander of Hizbul Mujahideen and chairman of the United Jihad Council, in April 2015 stated in an interview with Jang that dams and barrages in Jammu and Kashmir would be targeted among other Indian interests in order to achieve the goals of the militants.

Such rhetoric and mindset are inimical to the interests of the people of Kashmir, on both sides of the Line of Control, and raise questions whether the United Jihad Council actually has the best interests of Kashmiris at heart. If carried out in reality, such attacks will cause flooding and destruction, depriving people, animals and crops of water and electricity. The devastation that will be caused will not recognise man made boundaries and lines of control. It is the people of Kashmir in the entire region who will suffer.

Many of these accusations merely vitiate the discourse and hold the countries back from harnessing cooperation for the benefit of their people, as there is no evidence that suggests that India intends to create a switch 'to flood Pakistan' through its dam-building activities. In fact, India could not contemplate such an act without flooding large swathes of its own territory and destroying infrastructure worth billions of dollars. In an interview given in February 2015 to the New York Times, Pakistan's Minister of Water and Energy Khawaja Muhammad Asif stated that India was not building any reservoirs on the rivers that flow into Pakistan. He said, "A combination of global climate change and local waste and mismanagement have led to an alarmingly rapid depletion of Pakistan's water supply."

Such voices of reason do not discourage voices of hatred. Some members of the Pakistani intelligentsia have even gone to the extent of advocating the use of nuclear weapons on the suspicion that India might use a water weapon.

However, looking ahead, it would be better for the almost 1.5 billion living in the two countries for India and Pakistan to shift away from the rhetoric of confrontation to actions fostering cooperation. It would therefore be necessary that the two countries manage their internal water resources efficiently and address bilateral water relations dispassionately.

A popular and persistent rumour fostered and propagated by the establishment and press in Pakistan is the idea that India is planning to dam all of the Indus' eastern rivers in a bid to dry out Pakistan's water sources.

First, according to the IWT, after March 1970 (the end of the transition period agreed upon in the treaty) "Pakistan shall have no claim or right to releases by India of any waters of the Eastern Rivers. In case there are any releases, Pakistan shall enjoy the unrestricted use of the waters so released after they have crossed into Pakistan."

This means that India has the right to use the waters of the Eastern rivers, i.e. Beas, Sutlej and Ravi, as it sees fit, so long as the letter of the Treaty is followed. In this regard, it is similar to Pakistan's own claims over the western rivers of the Indus system.

Second, it is important to note that successive Indian administrations have allowed these rivers to complete their course by flowing into Pakistan. Apart from water usage for Indian purposes such as irrigation and for the use of dams (such as the Bhakra Dam and Pong Dam) - all of which as permitted by the IWT - India has not sought to block the entry of these rivers into Pakistan, where they continue on to join the Indus.

This is despite the fact that some analysts in India believe that entirety of the water of the Eastern rivers should be used by India and that water from the Beas, Sutlei and Ravi should be diverted to neighbouring states like Rajasthan which are water-scarce.

Few public statements have been made by senior Pakistan Army officials in recent times regarding the water issue. An editorial in the Pakistani Army's official military magazine Hilal, titled 'Games They Play' stated that India had been violating the Indus Water Treaty Agreement. The editorial claimed that India had already converted the Sutlej and Ravi rivers into 'sewers' and that India was now eyeing Pakistan's other water resources. The editorial also alleged that India had been planning to build as many as 67 dams on the Pakistani Rivers including the Indus, Jhelum and Chenab.

Hilal also carried an article by Ahmed Quraishi, a senior researcher at the Pakistan Federal Reorganisation Programme that stated India started its water aggression after independence. He also wrote that Kashmiri resistance groups fighting Indian occupation resent India's control over Kashmiri waters. Quraishi claimed that there was a possibility that some faction of armed z Kashmiri resistance group might attack or destroy

Indian dams and since India won't be able to identify or arrest them, they would use Pakistan as scapegoat and wage war.

An article in The News in 2010, stated that the Director General. Inter Service Public Relations (ISPR) Major General Athar Abbas had said that Indian water projects in Kashmir were strategically important for Pakistan as they could "wreak havoc if the dams collapsed or malfunctioned in any way". The news report argued that India wanted to flood Pakistan during times of inter-state tensions and that flood water would destroy Pakistan's defences including upper and lower Chenab canals in Sialkot region and all the way to Paninad in the south

Pakistan-based jihadi groups have shown themselves to be adjustable and focused on evolving their tactics. As a result, they regularly update their agenda to include what is current. This is clearly reflected in jihadi literature and recruitment speeches and videos. It is in this vein that they have tapped into accusations against India over water resources. Some analysts have stated that certain jihadi groups have 'retooled' their overall message to focus on a potential water dispute between India and Pakistan.

There has been an escalation in water-based rhetoric in the past few years by militant groups, especially by Lashkar-e-Toiba's chief Hafiz Saeed. Saeed has repeatedly used the phrase "make Pakistan barren" in reference to India's intentions regarding water. As early as 2003, Saeed encapsulated LeT's views on the issue stating that "Pakistan is rightly perturbed about the depleting water resources of the country, and it is most important it realises that all the deposits of water are in Indian Kashmir. The only way by which economic prosperity of Pakistan can be guaranteed and its farms can be prevented from getting barren is to increase its efforts in wresting control of India-occupied Kashmir. Only if Kashmir is freed from Indian control, can Pakistan's economic interests be safeguarded."

Saeed has also repeatedly claimed that India intends to capture Pakistan without waging war by gaining control over the latter's rivers illegally. These types of statements have mostly been made in public, during rallies and speeches that are also likely to be re-distributed via video and as transcripts. At the same time, Saeed has also mentioned numerous times that Pakistanis can and will respond with force against India over water.

These statements and repeated references to India's aggression have the potential to tap into an existential fear amongst the religious poor in Pakistan's rural areas whose incomes are mostly dependent on agrarian activities. Given the significance that water has for the agricultural community, focusing on India's alleged misdeeds and 'aggressive intentions' could aid these jihadi groups in recruiting many people into their ranks and increasing their fund-raising. By terming India's actions as 'an act of war', jihadi groups like LeT (and its charitable front Jamaat-ud-Dawa) have re-purposed the conversation between the two countries into an antagonistic confrontation that cannot be defused by Pakistan except by adopting a violent approach.

There is the risk that in the future militant groups will convert this rhetoric into action. In August 2012, 16 heavily armed militants attacked workers at the Wullar Barrage site in the village of Ningli and blasted off a portion of the construction. They then stayed for several hours at the site. Indian security forces have reported on two separate occasions that they had received information that militants from Lashkar-e-Toiba had planned to target the Baglihar Dam in 2009 and 2012. The previously mentioned statement by Syed Salahuddin, commander of terror group Hizbul Mujahideen and chairman of the United Jihad Council also point to the fact that militant groups plan to target dams, barrages and other water installations in India in the future. Given $\frac{1}{x}$ that neither the Pakistani state nor the T establishment seem to be invested in penalizing Z militant groups for aggressive water rhetoric, it is unlikely that this type of indoctrination will on subside any time soon.

In February 2019, after weeks of tension between India and Pakistan following the an attack in India which was claimed by Pakistani militants across of the border, some politicians in India threatened to stop the flow of the Eastern Rivers of the Indus into Pakistan and divert them to Indian territory.

It is important to note that at present, India and Pakistan through IWT and its arbitration mechanism have avoided water-based conflict. However, active water cooperation that would lead to the joint management of shared water resources, preservation and sustaining of the health of these rivers, adaptation to climate change and improving the lives of those dependent on the rivers still remains an elusive goal. Harsh rhetoric by the extreme right-wing factions in Pakistan and the unchecked use of water as a recruitment tool by militant groups will act as a barrier to this type of active cooperation to the detriment of the people of both countries.

The world is changing fast in the twenty first century. Most countries in developing world including Africa, Latin America and East Asia have engaged in regional water cooperation. It is time for India and Pakistan to use the potential of the Indus River for the benefit of the people in the basin rather than being trapped in confrontational rhetoric.





Recommendations

The looming threat of climate change is evident in South Asia. The region has been suffering from flash floods in recent years. The rhetorical reaction was for some elements in Pakistan to blame dams in India for the floods. However, NASA satellite images show that this was due to the La Nina effect. It would be prudent for India not to take such accusations seriously and instead work with Pakistan jointly to address the future patterns of climate change and measures for adaptation, resilience and disaster management.

Beginning with flood management, there are many ways in which cooperation could take place. Among these are methods to jointly augment internal water resources, build capacity, expand joint research, cooperate over shared water resources and jointly plan for disasters and the impacts of climate change.

Some of the recommendations to improve relations between India and Pakistan in the sphere of water management include:

- Joint mechanism on climate change
- Joint studies on source glaciers
- Improving data exchanges to include water quality as well as quantity (i.e. flow) for the health of the Indus River System
 - ►Increasing scientific expertise and data exchange between the countries in the water resources development sector, alternative agricultural practices and improving water resources infrastructure for better efficiency
 - Joint measures to improve water quality
 - Joint creation and implementation of various protocols for mutually acceptable water quality measurement standards

- Establishing a network of climate experts and joint monitoring stations along source glaciers
- Joint implementation of water conservation techniques in agriculture
- Research into drought, flood and saline resistant crops
- Cooperation on disaster management including on early warning systems, flood data exchange and on central or federal government disaster drills and protocols.

For the future it is important to promote true water cooperation between India and Pakistan rather than just conflict resolution. In order to do this, it will be important to first examine Pakistan's internal water management and see if India has any role in it or if Pakistan can improve its internal situation on its own. It is also important to consider Pakistan's concerns about India which have been referred to the Neutral Expert provided in the Indus Water Treaty and the Permanent Court of Arbitration and the Awards given by these bodies in response to the complaints. A detailed review suggests that many of the grievances have been of technical nature, duly addressed by the relevant international parties, and need not be obstacles in the way of fostering cooperation. What is necessary is to shift the focus to the real threats and joint response by the two countries.

Ultimately, India and Pakistan need to work together to move from contention to cooperation over their joint water resources. By doing so and building a long-lasting means of active cooperation over their water resources, India and Pakistan could pave the way for overall regional stability, security and peace. After all, the future $\frac{1}{100}$ of 1.5 billion, or almost one-fifth of the world's population is at stake.

REFERENCES

'Aquastat Pakistan Water Overview' FAO. 2010 Version http://www.fao.org/nr/water/aquastat/countries/ pakistan/index.stm

"India-Pakistan: Maybe war, but not a water war", Japan Times, 28 February 2019,

https://www.japantimes.co.jp/opinion/2019/02/28/commentar y/world-commentary/india-pakistan-maybe-war-not-waterwar/#.XgXFN9IzaM8

"India wants to use water as a weapon against Pakistan. A 59-year-old treaty stands in the way", The Washington Post, 19 February 2019 https://www.washingtonpost.com/world/2019/02/22/indiasthreats-pakistan-offer-hint-future-water-wars/

'The Indus Equation' Strategic Foresight Group, 2011.

Initiative-News. 7 January 2011, http://chimalaya. org/2011/01/07/climate-change-can-stir-indo-pak-conflict/

"Global Warming Benefits to Tibet: Chinese Official". Associated Free Press. 17 August 2009. http://www.google.com/hostednews/afp/article/ ALeqM5g1eE4Xw3njaW1MKpJRYOch4hOdLQ

"Key Water Information" IUCN Pakistan Water Gateway. http://cms.waterinfo.net.pk/?q=kwii

"Need Stressed to Fill Water Supply, Demand Gap" Business Recorder (Financial Daily). 11 January, 2011. http://www.brecorder.com/news/agriculture-and-allied/ pakistan/1142478:news.html

"Outlook 2013- Asia's Energy Challenge". Asian Development Bank. 2013.

"Pakistan Annual freshwater withdrawals, total (% of internal resources)". Orkii. 07 August 2013.

http://orkii.com/pakistan/freshwater-withdrawals-percent-ofinternal-resources

"Pakistan's glaciers will melt by 2035". Dawn. 06 November 2013. http://www.dawn.com/news/1054435

"Pakistan". Aquastat. 2011 http://www.fao.org/nr/water/aquastat/countries_regions/PAK/ index.stm

"The Indus Waters Treaty 1960" World Bank. http://siteresources.worldbank.org/INTSOUTHASIA/ Resources/223497-1105737253588/ IndusWatersTreaty1960.pdf

Al Qalam Weekly, 28 September-4 October 2018, Issue No 661

Saadi, Al Qalam Weekly, 6-12 July 2018

Ashraf Sajjad. "Pakistan's water shortage drips towards disaster". The National. 28 August 2013. http://www.thenational.ae/thenationalconversation/comment/ pakistans-water-shortage-drips-towards-disaster

Daanish Mustafa, Majed Akhter, Natalie Nasrallah. "Understanding Pakistan's Water-Security Nexus". Peace Works, 2013

http://www.usip.org/sites/default/files/PW88 Understanding-Pakistan%27s-Water-Security-Nexus.pdf

Eng. Kazi, Abdul Majid. "Overview of Water Resources in Pakistan." Pakistan. http://www.pakissan.com/english/ watercrisis/overview.of.water.resources.in.pakistan.shtml

F.A. Shaheen, M.H. Wani, S.A. Wani, S.A. Saraf. $\hbox{``Climate Change Can Stir Indo-Pak Conflict''}. Climate Himalaya \hbox{``Sustaining Energy and Food Security in Transboundary River} \\$

> Gah, Shirkat. "Climate Change Increasing Workload on Women - Pakistan Study". Wunrn. 29 November, 2013. http://www.wunrn.com/news/2014/01 14/01 06/010614 clim ate.htm

Gosh, Palash. "Another Victim Of Global Warming: Pakistan's Glaciers Will Completely Melt Away By 2035". International Business Times. 07 November 2013. http://www.ibtimes.com/another-victim-global-warmingpakistans-glaciers-will-completely-melt-away-2035-1458936

Hamid, Waheed. "VIEW: Melting ice of Siachen Glacier". Daily Times. 2 January 2010. http://www.dailytimes.com. pk/default.asp?page=2010\01\02\story_2-1-2010_pg3_3

Jena, Manipadma. "Rivers-A Source of Rising Tension between Pakistan and India". Earth Journalism Network. $http://www.adb.org/sites/default/files/pub/2013/ado2013.pdf \ http://earthjournalism.net/content/rivers-source-rising-partial content/rivers-source-rising-partial content/rivers-source-rising-pa$ tension-between-pakistan-and-india

> Karki, Madhav. "Glacier and Snow Melting in the Himalayas and its Possible Implications". High Noon. 13 May 2009. http://www.eu-highnoon.org/publications/presentations/4

> Khan, Nisar Ahmad. "Glaciers in Pakistan". Pakistan Geographic. http://pakistangeographic.com/glaciers.html

Laghari, Javaid. "Climate change: Melting glaciers bring energy uncertainty". Nature. 30 October 2013. http://www.nature.com/news/climate-change-melting-glaciersbring-energy-uncertainty-1.14031

Mahe Zehra Husain. "The Indus Water Treaty in Light of Climate Change". The University of Texas at Austin. 2010. http://www.ce.utexas.edu/prof/mckinney/ce397/Topics/ Indus/Indus_2010.pdf

REFERENCES

Malik, Dr. Manzoor Ahmad; Tahir, Dr. Muhamad Aslam & Bhatti, Engr. Ahmad Zeeshan. 'Pak-India Transboundary Cooperation on Shared Water Resources – Past and Present Perspective'. Pakistan Council of Research in Water Resources. July 2012.

Mool, P.K. Bajracharya, SR. Shrestha, B. & Joshi, SP. "Indus Basin Pakistan Himalaya: Inventory of Glaciers and Glacial Lakes and the Identification of Potential Glacial Lake Outburst Floods (GLOFs) Affected by Global Warming in the Mountains of Himalayan Region".

http://wiki.westgis.ac.cn/images/3/3c/%E5%B7%B4%E5%9F%BA%E6%96%AF%E5%9D%A6%E5%86%B0%E5%B7%9D%E7%BC%96%E7%9B%AE%E6%8A%A5%E5%91%8A.pdf

Mool, Pradeep K. "Glaciers, Glacial Lakes and Glacial Lake Outburst Floods in the Himalaya". ICIMOD. www.agoca. net16.net/1.doc

Philip, Snehesh Alex. "Pakistan asks India to withdraw army from Siachen glacier". Live Mint. 04 December 2013. ttp://www.livemint.com/Politics/xpxaOJNcQDbyjfYbArntol/Pakistan-asks-India-to-withdraw-army-from-Siachen-glacier.html

Shaheen, Akhtar. "Emerging Challenges to Indus Water Treaty" Institute of Regional Studies, Islamabad. Vol. 28, 2010. http://www.irs.org.pk/PublFocus.htm Special Report by Danish Mustafa "Hydropolitics in Pakistan's Indus Basin", United States Institute of Peace (USIP), 2010. http://www.usip.org/files/resources/ SR261%20-

%20Hydropolitics_in_Pakistan%27s%20_Indus_Basin.pdf

System: Case of Indus Basin" Sher-e-Kashmir University of Agricultural Sciences and Technology of Kashmir, Srinagar, India. http://www.riversymposium.com/index.php? element=SHAHEEN

Tahir, Adnan Ahmad. "Impact of climate change on the snow covers and glaciers in the Upper Indus River Basin and its consequences on the water reservoirs (Tarbela Dam) – Pakistan". Universite Montpellier 2 Sciences et Techniques Du Languedoc. 21 September 2011. http://www.hydrosciences.org/IMG/pdf/These_Adnan_versionfi

nale.pdf

Talha al Saif, Al Qalam Weekly, 5-11 October, Issue No 662, 10

Tsewang Namgail. "Signs of Climate Change on Roof-top of the

Water Cooperation Quotient, Strategic Foresight Group, 2017 https://www.strategicforesight.com/publication_pdf/Water%20 Cooperation%20Quotient%202017.pdf



October 2018

World".

Strategic Foresight Group is an international think tank based in Mumbai, India. Since its inception in 2002, it has worked with governments and national institutions of 60 countries in four continents. It is known for conceiving several pioneering policy concepts to help decision makers to respond to challenges of the future in three spheres: peace and security, water diplomacy, global paradigm shifts.

Its ideas have been discussed in
the United Nations Security Council, United Nations Alliance of
Civilizations,Indian Parliament, European Parliament, UK House of
Commons, House of Lords, World Bank, World Economic Forum (Davos)
and other important public institutions. The initiatives and analysis of the
Strategic Foresight Group have been quoted in over 3000 newspaper
articles and news media sources from almost 100 countries in all
continents.

www.strategicforesight.com

Blue Peace Bulletins are produced by Strategic Foresight Group as a part of a programme co-financed by the Swiss Agency for Development and Cooperation (SDC). They do not in any manner represent the official position of the SDC or any other branch of the Government of Switzerland.