



Indo-Pak Water Disputes: Time for Fresh Approaches

Manish Vaid & Tridivesh Singh Maini

Abstract

This paper aims to examine the extended disagreements between India and Pakistan over sharing of the Indus waters and its tributaries from a fresh perspective. It provides a brief overview of the water dispute between India and Pakistan and some of the policy failures which have led to the water crisis, especially in Pakistan. It suggests innovative ways to deal with this vexed issue through greater cooperation between agricultural universities and frequent interactions between farmers of the two countries. The paper also emphasizes that the dispute should be dealt with using a non-technical approach and a NTS (Non Traditional Security) perspective.

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Introduction

The twentieth century British poet WH Auden, once said, “Thousands have lived **without love, not one without water.**” His words are especially relevant in the context of South Asia, which is home to more than a fifth of the world’s population and where the economies are largely dependent upon agriculture.

Unfortunately, South Asian countries, particularly India and Pakistan, have both faced challenges in water management and proper river basin management. The consequence of this has been a severe water crisis, which has a bearing on both ground and surface water. A cursory glance at the data on fresh water availability per person, per year reveals this vulnerability. South Asia’s renewable freshwater resources are about 1,200 cubic meters per capita. In comparison, a large number of countries have between 2,500 – 15,000 cubic meters per capita. Some like Canada and Norway have over 70,000 cubic meters per capita.¹

The difficulties in managing surface water are especially complex in South Asia. River basins—the ultimate source of all water used in households, agriculture and industry (like hydropower companies), as well as the receptors of most wastewater²—often transgress international borders. Since actions upstream can lead to disruption of the natural flow of rivers, water pollution, diversion of the waters with the occasional threat of even blocking the flow of water, water sharing can often lead to political tensions and acrimony, as has happened in the case of India and Pakistan. The lower riparian countries become especially vulnerable. Effective river basin management therefore necessitates that water users take into account the relationships, interaction and impact that their actions have on others, especially those downstream.

Indo-Pak water dispute: The origins

The Indo-Pak dispute on the Indus basin has drawn immense attention in South Asia and across the world, largely due to the nature of the tense political relationship between the two countries. This attention has grown more intense in recent years, in the aftermath of the Mumbai attacks on 26 November 2008, which had kindled fears of a nuclear war. Analysts began exploring, not only the sources of the tension between the two nuclear states but also areas which had the potential for increased cooperation and thereby reduce the possibility of a war at any point in the future. Water is one such area, especially the Indus basin.

The system of rivers in the Indus basin comprises 2,000 miles of the river Indus and its five tributaries from the East — Jhelum, Chenab, Ravi, Beas and Sutlej, with an aggregate length of

¹World Bank. ‘South Asia Water: Water Resources Management,’ available at <http://web.worldbank.org/WBSITE/EXTERNAL/COUNTRIES/SOUTHASIAEXT/0,,contentMDK:22022926~pagePK:146736~piPK:146830~theSitePK:223547,00.html>.

²Ibid.

2,800 miles.³ Most of the upper reaches of the Indus basin lie in India. All these rivers combine in Mithankot in Pakistan and flow into the Arabian Sea near Karachi.

The Indus system of rivers has been used for irrigation ever since civilization took root in the area. The water disputes too date back to the pre-partition era, when there were significant inter-state differences between Punjab, Sind, Bahawalpur and Bikaner.⁴ After Pakistan was created in 1947, this inter-state dispute amongst the four states became an international water dispute between the two newly formed nation states. The issues around water sharing were now between West Punjab of Pakistan and East Punjab of India. Lands on the West (which are today part of Pakistan) are fertile and the British, wanting to take advantage of the fact, developed the Indus Basin irrigation system. On the other hand, the land in Haryana and the East Punjab (which is today part of India) was not considered particularly fertile. At the time of Partition, Sir Cyril Radcliffe, who was entrusted with the task of boundary demarcation, drew a line across the Indus, dividing not just the land, but the waters and the integrated Indus canal system. Thus, at Independence, the newly formed states had the onerous responsibility of finding a proper mechanism to share and jointly manage the irrigation system for the future⁵.

Over the years, India built its irrigation system which could serve the needs of Himachal Pradesh, Punjab, Haryana and Rajasthan. On the other side, the fact that the source of the rivers of the Indus basin were in India resulted in fear of droughts and famine in Pakistan.⁶ In fact, until the signing of the Indus Water Treaty (IWT) in Karachi on 19 September 1960, significant disagreements persisted between the two countries. To quote a defining example, although the Inter-Dominion Conference was held in May 1948, and an agreement between the two countries was signed, wherein India assured Pakistan of not withdrawing water delivery, without allowing time for Pakistan to develop alternate sources, Pakistan communicated its dissatisfaction with the ground situation. On 16 June 1949, Pakistan sent a note to India which called for a conference to resolve the “equitable apportionment of all common water” and suggested giving the World Court jurisdiction on the application of either party. But India categorically objected to third party involvement and instead suggested that judges from each side be allowed to narrow the disputes first.⁷

In August 1951, Eugene Black, President of the World Bank, invited prime ministers of both the countries to Washington and they finally agreed on an outline of essential principles and arrived at a common understanding that neither side will reduce the river water supplies for existing uses.⁸

The World Bank then came out with its own proposal which suggested division of the western tributaries to Pakistan, and the eastern tributaries to India, besides a proposal of continued

³ R.K. Arora, *The Indus Water Treaty Regime* (New Delhi: Mohit Publications, 2007), 1.

⁴ *Ibid*, 2.

⁵ B.G. Verghese, “Water issues in South Asia,” *ORF Discourse*, Vol. 5, Issue 8, (April 2011), http://www.observerindia.com/cms/sites/orfonline/modules/orfdiscourse/attachments/odv_8_1305262176430.PDF (accessed August 20, 2012).

⁶ Although the development of irrigation system on the Indian side did not cause water scarcity in Pakistan, the Partition created mistrust and suspicion came to determine the perceptions about water security on the Pakistan side.

⁷ Arora, *op.cit.*, 63.

⁸ *Ibid*, 64.

deliveries to Pakistan during transition period of ten years.⁹ India accepted the proposal while Pakistan gave its qualified acceptance on March 25, 1954. Later when the World Bank arranged an international Indus Basin Development Fund and raised \$893 million, the Indus Water Treaty was finally signed by both the countries on 19 September 1960.¹⁰ The World Bank effectively brokered a settlement on the dispute arising out of water sharing of Indus River and it continues to play a significant role whenever the two countries are unable to resolve issues bilaterally in this area.

Factors leading to the Indus Water Treaty

Under the Treaty, India was given an exclusive right of three eastern rivers – Sutlej, Beas and Ravi, while Pakistan was given the right of three western rivers – Indus, Chenab and Jhelum. The tributaries of these rivers are also considered their part under the treaty¹¹. One school of thought believes that the treaty has been a success. B.G. Verghese, senior Indian journalist, and one of the key proponents of this argument states that,

The Treaty has worked well and withstood wars and tensions, though some on both sides feel it is unfair to them. However, the fact is that the IWT enabled both sides to get on with the responsibility of settling refugees following the Partition and lay the foundations for the Green Revolution that followed. Pakistan built Tarbela and Mangla and India Bhakra-Nangal and Pong.¹²

Pakistan has important reservations on the treaty.

Pakistani apprehensions on the IWT

In Pakistan, some political leaders, certain sections of the Pakistani press and militant groups have made water sharing an emotive issue. The argument that IWT is a success has not convinced them and they emphasize that Pakistan is the lower riparian and a predominantly agrarian economy and voice fears that India can block Pakistan's rightful water share by building dams. An important concern expressed by some analysts in Pakistan in this regard is that while the Treaty includes provisions on a minimum supply of water, it does not address the question of the distribution of water and neither does it foresee demographic developments within each country which change the demand for water. Therefore, while it protected usage at the time, it did not safeguard each country's interest in the future since it did not take into consideration the increase or decrease in requirements that may occur. However, most of the disputes that have arisen between the two countries whether on Baglihar, Kishanganga or Wullar barrage have involved the issue of flow to the lower riparian.

In 2010, Pakistan lodged a complaint with The Hague's Permanent Court of Arbitration (CoA) on India's plans to build a dam on the Kishanganga river (Neelum in Pakistan), as part of a run-of-the-river hydroelectric project, claiming that it was a violation of the Treaty. Pakistan is building the Neelum-Jhelum hydroelectric project downstream. In 2011, after visiting both projects, the CoA put a stay order that prevented India from constructing a permanent structure

⁹ Ibid. 65

¹⁰ Ibid. 66.

¹¹ Verghese, op.cit.

¹² Ibid.

which could affect the flow of water downstream to Pakistan. Recently on September 1, 2012, CoA concluded a two-week hearing¹³, the verdict of which is expected within a period of six months.¹⁴ Importantly, the Pakistan press reported that India was set to receive \$700 million as carbon credits for ten years against seven hydropower projects built on Pakistan's share of rivers under the IWT – the Indus, Chenab and Jhelum. This raised fears in Pakistan that it might grant legitimacy to projects such as the Kishanganga on the Indian side.¹⁵

Notably, the earlier disputed projects too were related to the construction of dams. One was the construction of Salal Dam on the Chenab in 1978, the first ever dispute after the signing of IWT, the other being the Wullar Barrage / Tulbul Navigation Project which began in 1987. While the resolution of Salal Dam dispute is considered as a case of successful water conflict resolution between India and Pakistan, the Tulbul navigation project on the Jhelum still remains unresolved. Yet another dispute was related to Baglihar Dam on the Chenab River, which was resolved only after a neutral expert from the World Bank was appointed. In his verdict of February 12, 2007,¹⁶ the arbitrator accepted some of the objections raised by Pakistan relating to the design of the dam, diversion of water and power generation scheme. The decision was largely perceived as a balanced one.¹⁷

The fear of water deprivation has become a major source of bilateral dispute. In the recent past, India's Ministry of External Affairs (MEA) has cited evidence to show that certain sections of Pakistan's polity have been falsely stating that New Delhi is deliberately depriving Islamabad of its share of water guaranteed under the Indus Water Treaty, and is bent upon destroying Pakistan's agrarian economy.¹⁸ The militant fringe in Pakistan's polity took up the Indus waters as a 'lifeline' issue in 2009-10, when Lashkar-e-Tayyeba chief Hafiz Saeed, paraded the streets of Muzaffarabad, Rawalakot, Lahore and Faisalabad with placards saying, "Water must flow or else blood will flow".¹⁹

Amidst such statements, there were many voices of sanity in Pakistan. Significantly, the same MEA document points out that there are many voices in the Pakistani establishment who have unequivocally stated that India is not violating the IWT in any way and that water shortages in Pakistan are a result of domestic policy failures and not some sinister Indian strategy. The document, while citing Indus Water Commissioner Sayyed Jamaat Ali Shah, states that many

¹³ Zaheerul Hasan, "Indo-Pak Dispute over Kishanganga Project," *Pak Tribune* (October 30, 2012) <http://paktribune.com/articles/Indo-Pak-Dispute-over-Kishanganga-Project-242985.html> (accessed November 17, 2012)

¹⁴ Jamil Mohammad, "IWT – Kishanganga arbitration," *Pakistan Observer*, available at <http://pakobserver.net/detailnews.asp?id=178785> (accessed November 17, 2012)

¹⁵ X' Afia Ambreen, "Indo-Pak Water Dispute," *The Frontier Post* (June 17, 2012), <http://www.thefrontierpost.com/article/167056/> (accessed August 20, 2012)

¹⁶ Saheen Akhtar, "Emerging Challenges to Indus Waters Treaty: Issues of compliance & transboundary impacts of Indian hydroprojects on the Western Rivers". *IRS Institute of Regional Studies*. Islamabad, available at <http://www.irs.org.pk/f310.pdf> (accessed November 17, 2012)

¹⁷ Ibid.

¹⁸ "Water dispute: MEA exposes Pak doublespeak," *Zee News Bureau*, (August 18, 2011.), available at <http://zeenews.india.com/election09/story.aspx?aid=611698> (accessed August 20, 2012)

¹⁹ Verghese, op.cit.

Pakistan officials themselves agree that all hydro-electric projects built by India are in total conformity with the IWT, and have only been initiated after obtaining necessary permissions.²⁰

In a counter to Saeed's argument, Shah Mehmood Qureshi, a former foreign minister of Pakistan, has clearly stated that India was not stealing water. Rather, Pakistan was wasting thirty-five million acre feet (MAF) of water, and if there were seasonal variations this was only because of the natural hydrological cycle.²¹ Qureshi's argument is validated when one examines the real reasons for Pakistan's water crisis.

Reasons for the water crisis in Pakistan

According to Pakistan's *Economic Survey* (2011-12), the agrarian economy is heavily dependent on river water provided by melting glaciers.²² The survey also highlighted that during the period 2011-12, the availability of water for both *kharif* and *rabi* crops was respectively 10 percent and 19.2 percent less than normal.²³ Also water availability for Rabi crop was 15 percent less than 2010-11 (see Table 1).

This *Economic Survey* also highlighted the excessive wastage of water from the irrigation system due to the improper lining of waterways. As a consequence, the agriculture, livestock and fisheries sectors were adversely affected. According to the World Bank and Needs Assessment Report, 2011, the total damages caused to these sectors were \$1,840 million while reconstruction costs were estimated to be about \$305.6 million. Damages to agriculture, livestock and fisheries sectors accounted for 49.33 percent of total damages of all the sectors during that period.²⁴

Pakistan has one of the world's largest glacial reserves in the Karakoram-Hindukush-Himalaya ranges supplying fresh water to the Indus River System, the world's largest irrigation system.²⁵ Fears of this supply getting affected by climate change have been voiced since the 1990s. With global average temperatures rising, it was feared that glaciers would be melting at an alarming rate. However, a separate study found that Karakoram glaciers and ice caps, as a whole, were losing mass less quickly than once feared, offering some respite to the effected region.²⁶ This fact was noted by the National Plan of Pakistan 2012-13.

The same National Plan mentioned that the Integrated Irrigation Network of Indus Basin is under serious threat of water logging, hydro-salinity, adverse effects of pollution and contamination of surface and ground water. Consequently, the Plan suggests that an overall environmental management plan and process for approval and implementation be put in

²⁰ "Water dispute: MEA exposes Pak doublespeak," *Zee News Bureau*, (August 18, 2011), http://zeenews.india.com/news/nation/water-dispute-mea-exposes-pak-doublespeak_611698.htm (accessed August 20, 2012).

²¹ Ibid.

²² 'Pakistan Economic Survey (2011-12), 237, <http://cdn.onepakistan.com/content/2012/budget/16-Environment.pdf> (accessed August 20, 2012).

²³ Ibid.

²⁴ Ibid, 238.

²⁵ Nina Chestney, "Himalayan Mountains Buck Glacier Melt Trend: Study", April 15, 2012, <http://in.reuters.com/article/2012/04/15/glacier-himalayas-idINDEE83E08720120415> and Focus Area - Energy & Climate Change, Clinton Global Initiative, Annual Meeting 2006 as stated in Planning Commission of Pakistan's Annual Plan 2012-13.

²⁶ Ibid.

place.²⁷Hence, one can infer that more than anything else, it is inadequate water policies and loopholes in the regulations for management of water systems, that are acknowledged as the causes of the water crisis in Pakistan. Its impacts on various sectors including agriculture and allied activities have also been documented.

Table 1: Actual surface water availability

| Period | Kharif (MAF) | Rabi (MAF) | Total (MAF) | Increase / Decrease (%) Over the average |
|--|-----------------|---------------|----------------|--|
| Average System Used | 67.1 | 36.4 | 103.5 | - |
| 2003-04 | 65.9 | 31.5 | 97.5 | -5.9 |
| 2004-05 | 59.1 | 23.1 | 82.2 | -20.6 |
| 2005-06 | 70.8 | 30.1 | 100.9 | -2.5 |
| 2006-07 | 63.1 | 31.2 | 94.3 | -8.9 |
| 2007-08 | 70.8 | 27.9 | 98.7 | -4.6 |
| 2008-09 | 66.9 | 24.9 | 91.8 | -11.3 |
| 2009-10 | 67.3 | 25.0 | 92.3 | -10.8 |
| 2010-11 | 53.4 | 34.6 | 88.0 | -15.0 |
| 2011-12 | 60.4 | 29.4 | 89.8 | -13.4 |
| Note: MAF - million acre feet | | | | |
| Source: Indus River System Authority, Economic Survey of Pakistan 2011-12 | | | | |

The Pakistan Economic Survey 2010-11, categorically acknowledges that water related issues are a serious threat in Pakistan. It states that, 'the existing water resources in the country are under threat due to untreated discharge of municipal and industrial wastes to rivers and other surface water bodies. The majority of the population of Pakistan is exposed to the hazard of unsafe and polluted drinking water.' These issues are testimony to the limitations of existing water management policies and regulations in Pakistan.

²⁷Pakistan Environmental Protection Agency, Islamabad, Ministry of Climate Change as stated in Planning Commission of Pakistan's Annual Plan 2012-13.

Water Crisis in India

Like Pakistan, India too faces acute water shortage. This has been stated in various government documents, including the Draft Water Policy of India -2012, which listed several causes of the precarious water situation in India. The policy document states that water stress in large parts of India can be attributed to population growth, urbanization and changing lifestyles, improper addressing of water governance, mismanagement of water resources, and the threat of climate change. Many of these are also leading to salinity of both groundwater and surface water.

Interestingly, it also highlights that while multi-disciplinary water resources projects are planned and implemented, they suffer from problems of fragmentation and ignore optimum utilization, environmental sustainability and holistic benefits to the people.²⁸ These issues, besides others raised in this draft make many of the earlier National Water Policies inconsequential.

When we move from the broader national scenario and look specifically at water quality of Indus basin on the Indian side, we find that several studies have been conducted to test the quality of water. One such physico-chemical water quality analysis was conducted in Harike Wetland, a site at the confluence of the two rivers-Sutlej and Beas.²⁹ The study revealed the deterioration in water quality towards Sutlej River resulting from untreated effluents and municipal wastes from townships and industries situated on its banks.³⁰ A gradual increase in temperature, Electrolytic Conductivity, high proportion of Total Dissolved Solids, Alkalinity, Hardness, High levels of Calcium and Magnesium were observed in Harike waters.³¹ Thus, both long-term water security in the region and more immediate local concerns, offer compelling reasons for India and Pakistan to cooperate.

Room for cooperation between both countries

As aforementioned, there have been many concerns raised by Pakistan on Indus Water Treaty and there is room for further negotiations. Citing Article XII of IWT, B.G. Verghese, an India based expert on water issues, has proposed Indus II that will be largely based on the foundation of Indus I.³² Some on the Pakistan side, like F.S. Ajazuddin, have articulated that the conflict is too important to be left to the two commissioners to discuss and refer to an arbitrator (in this case the World Bank). He proposes the setting up a Joint Commission, whose structure is based on the belief that water resources are a common asset and that neither country owns them. Each country should see itself as a trustee of the resource for future generations. Rather than having two Commissioners from each country sit across the table and negotiate, the Joint Commission will be different in the sense that it would function as one body looking at the interests of both Pakistan and India.³³

²⁸ Draft National Water Policy of 2012, Ministry of Water Resources, Government of India.

²⁹ Ramanathan A.L. (ed). National Workshop on Water Quality (Including Drinking Water). Book of Abstracts. Jawaharlal Nehru University. February 2002. New Delhi, available at <http://jnuenvs.nic.in/publication/waterquality.pdf>. (accessed 16 October 2012).

³⁰ Ibid.

³¹ Ibid.

³² Article XII proposes that the Treaty can be modified by another treaty. See Verghese, op.cit.

³³ F. S. Ajazuddin speaking at a Conference on "The Software of Peacebuilding," New Delhi, August 25, 2012.

But the crux of the matter is beyond this Treaty and is the water crisis faced by both the countries. The crisis cannot be attributed to any provisions of the IWT but is largely related to the mismanagement of water resources in general by each country and Indus River Basin in particular. Both these countries found themselves in such a crisis due to common factors like population growth, urbanization and ineffective policies dealing with these factors in order to tackle the water crisis. The fear of the melting glaciers of the Himalayas is adding to the woes of the existing water stress.

Therefore, at the first instance what these countries need is, to deal with their current water management problems and then create spaces for cooperation wherever possible, including those that can help deal with climate change. Thinking of Indus II or even abrogation of the same cannot guarantee any solution to the existing water crisis these two countries are trapped in.

The first step by each country should be to recognize the water problems of not only its own people but those of its neighbor, for the simple reason that these issues transcend national territories or borders drawn by states. Action or inaction of either country would impact the situation in the other country and more so in Pakistan, which is a lower riparian country. Even if the existing treaty were to be abrogated, Pakistan will still continue to have normal lower riparian rights over the rivers flowing into its territory under international law.

The next step would be for India to allay Pakistan's fears with regard to the Indus Treaty. In April 2012, India's Indus Water Commissioner G. Aranganathan, speaking to *Time*, had clarified that "there was no question of interrupting or reducing Pakistan's water supply". He had said that India was not preventing the flow of water to Pakistan. After filling the reservoirs in the initial stages — of the Tulbul navigation project on the Jhelum — the waters would only be used for running the turbines.³⁴ Such clarifications can build confidence and it is important for India to continue to take further steps to address Pakistani concerns.

Pakistan on its part must acknowledge that the Indus Treaty is an example of successful conflict resolution between the two rival countries, which have otherwise fought three wars after independence and have locked horns on various issues over the years. Therefore, it is time that both countries end their shrill and clichéd stances that restrict fresh approaches in dealing with challenges as existential as water scarcity.

Building on the stability of the IWT both nations should go beyond just conflict resolution over Indus water sharing and develop partnerships in the water sector by setting up institutional mechanisms and building joint capacity to tackle the water problem.

The current institutional mechanism in the two countries is similar in many respects and it will not be difficult to bring the relevant levels of administration to partner with their counterparts in the other country. Both Central and State Governments in these countries have been entrusted with the responsibilities of development, conservation and management of water.³⁵ Like India, it is the Federal Government in Pakistan which is responsible for the overall policy

³⁴Niharika, Madhana, "Water Wars: Why India and Pakistan Are Squaring Off Over Their Rivers," *Time*, (April 16, 2012), <http://www.time.com/time/printout/0,8816,2111601,00.html> (accessed August 20, 2012)

³⁵Ministry of Water Resources, op.cit.

formulation in this area. Besides, it provides technical assistance to the states/provinces on irrigation, multipurpose projects, groundwater exploitation and exploration, flood control, water logging and so on. Furthermore it is the State/provincial Government which has the responsibility of using and controlling this precious resource.

A partnership between the governments of two Punjabs can go a long way in ensuring that the common problems are viewed from a holistic perspective and not from a standpoint of suspicion and uncertainty. While this may seem like a difficult proposal to push, given the history of the bitter and violent partition along this part of the border, the fact also remains that the two Punjabs share common climatic conditions, similar water management practices, non-stringent water policies and water intensive crop cultivation. Once both sides come to an agreement that they could each benefit from the others' innovations and practices in dealing with water scarcity; and are transparent about developments, this process can become a template for cooperation in other areas of mutual interest.

The improved bilateral relations in recent months provide an opportune moment for this cooperation to take shape. Addressing the water management issues in the Indus river basin on both sides of the border can improve the status of water availability and water quality³⁶ in both countries and bring India and Pakistan closer to achieving the MDGs. At a political level, the water issue is important for the politically dominant province of Pakistani Punjab and finding synergies may be a way of reaching out to those sections of the population who have apprehensions with regard to India's stand on water and are in some senses the driving force behind the continuing hostility. By driving home the point that policy failures and not India is responsible for the water crisis,³⁷ Pakistan can begin to concretely address its water security problem.

The purely technical and juridical aspects of the water issue can be augmented by focusing also on greater interaction and enhanced dialogue between important stakeholders on both sides, some of whom include farmers, researchers and students of various water and agricultural universities. Some of the possible areas of cooperation are discussed below.

Conducting joint studies on receding glaciers by both countries

Various independent studies have been conducted on receding Himalayan glaciers by agencies worldwide. Appreciating the source of the problem, both the countries could cooperate on conducting research on the specific impacts of the receding glaciers. This would help these countries to come up with solutions on River Basin Management, instead of harping on the provisions in the treaty itself. Once the fundamental problem of water stress is taken care of through joint efforts, the problems in the Treaty will become immaterial.

³⁶M.S. Gill, "Water crisis of east and west Punjab," *The Hindu*, May 28, 2010

³⁷ Ibid. Also see T.S. Maini, "Indo-Pak water issues: Room for cooperation," *The Daily Times*, July 26, 2011

Greater interactions between farmers groups of both countries³⁸

On 7-8 May 2012, when a business delegation from India visited Lahore to participate in the second Aman ki Asha Indo-Pak Economic Conference, the idea of exporting farm produce to Pakistan was seriously discussed. One of the farmers, Rattan Singh Randhawa, who was part of the Indian delegation, echoed the sentiments of many when he said that: "In a village only those neighbors, who exchange household goods or farm equipment with each other, have good relations. It is the same with nations."³⁹ Frequent interactions of a similar nature will thus not only strengthen Indo-Pak trade ties, but also give a fillip to cooperation between the agricultural sectors of both countries. Further, if there are more exchanges for farmers of both countries such as those facilitated by the Two Punjab Centre which is part of the Centre for Research in Rural and Industrial Development (CRRID) Chandigarh and Aman Ki Asha, it would contribute towards improved relations in other areas as farmers can more easily arrive at consensus on shared issues and problems⁴⁰.

Finding common ground in combating desertification⁴¹

India and Pakistan can also join hands for fighting environmental degradation in their shared desert region along the border. Desertification can easily lead to agricultural losses resulting in food shortages. This phenomenon is already visible in both India and Pakistan. With collaboration, both countries can protect agricultural lands vulnerable to desertification through water conservation measures and modern irrigation techniques. Both countries have already shown interest in protecting communities and farming operations that lie on the desert's fringes.⁴² For example in the case of Pakistan, a collaborative project between Pakistan's Integrated Rural Awareness and Development Organization and the One-UN Joint Program on Environment aims to build check dams, rehabilitate ponds in the area of Nagar Parkar, and construct earthen embankments to help store water and promote conservation.⁴³ Similarly, in Rajasthan's Churu district, the Bhoruka Charitable Trust, an Indian NGO, is encouraging villagers to build and renovate water tanks, ponds, and dug-wells to preserve potable water.⁴⁴ Efforts of both countries in the Thar Desert can be shared as best practices and this sharing could go a long way as a confidence building measure.

Effectively utilizing the SAARC platform

There should be more emphasis towards greater interaction and cooperation within South Asian Association for Regional Cooperation (SAARC) countries on issues like water

³⁸ Yudhvira Rana, "Farmers teach India Inc ways to mend ties," *Times of India*, (May 7, 2012), http://articles.timesofindia.indiatimes.com/2012-05-07/india-business/31609560_1_aman-ki-border-villages-india-and-pakistan (accessed August 20, 2012)

³⁹ Ibid.

⁴⁰ Ibid. Also see T.S. Maini, "South Asian Cooperation and The Role of the Punjabs" (New Delhi: Siddhartha Publications) 2007; and T.S. Maini, "Now let's tackle the tougher issues," *Tehelka*, (May 15, 2012), http://www.tehelka.com/story_main52.asp?filename=FW150512Now.asp

⁴¹ Sreya Panuganti, "Desert Solitaire: Why India and Pakistan Should Collaborate to Combat Desertification," *Stimson*, April 10, 2012, <http://www.stimson.org/spotlight/desert-solitaire-why-india-and-pakistan-should-collaborate-to-combat-desertification/> (accessed August 20, 2012)

⁴² Ibid.

⁴³ Ibid.

⁴⁴ Ibid.

management and agricultural growth. The SAARC, from its very inception has focused on regional cooperation in the spheres of agriculture and rural development. The Technical Committee on Agriculture and Rural Development (TC-ARD) conducted a number of meetings on the application of statistics on agricultural research, exchange of scientific and technical information and so on. It has also deliberated on various demand-driven areas such as 'Water Resources Management' and 'Water for Agriculture' in SAARC countries.⁴⁵ More concerted action in these areas using the space provided by the regional body can contribute to improving bilateral relations.

Greater collaboration between the two Punjabs

In this context, a substantial start could be made by accelerating cooperation between the two Punjabs. The two Punjabs share a similar culture and face similar problems. They can be a good starting point for collaboration on the problem of water shortage. The two premier agricultural institutions of the region, the Punjab Agricultural University, Ludhiana and the University of Faisalabad in Punjab province of Pakistan can collaborate. Training can be provided to Pakistani students on understanding the hydrological data, water management techniques, restoration of water bodies, watershed management practices, and improving the quality of groundwater, and restoring the water tables through rainwater harvesting. The two countries can learn from each other in the policy sphere as well. "For example in 2009, India promulgated the Sub-Soil Water Preservation Act and discouraged its farmers from planting a nursery before 10 May and sowing before 10 June each year, thus bringing down the irrigational requirements of canal water and maximizing the use of monsoon rains. This actually helped in raising water levels in the Indian Punjab".⁴⁶ Such knowledge can easily be disseminated between farmers across the border. There is limited awareness in India about the innovative techniques being used by the farmers in Pakistan, however, we believe that similar knowledge can be offered by them to the Indian side as well.

Conclusion

In conclusion, it is imperative for the political leadership, civil society and other important stakeholders in the water issue to exhibit confidence, to counter propaganda and ensure that both countries deal with the challenges posed by the water crises in the region jointly. They must refrain from pointing fingers at each other. The challenges posed by water scarcity should unite the two countries and not divide them and cause hostility.

⁴⁵ http://www.saarc-sec.org/areaofcooperation/cat-detail.php?cat_id=44# (accessed August 20, 2012)

⁴⁶ T.S. Maini, "Now let's tackle the tougher issues," *Tehelka*, 15 May, 2012, http://www.tehelka.com/story_main52.asp?filename=Fw150512Now.asp (accessed August 20, 2012)

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