Chapter-III

INDUS RIVER BASIN

National Interests, Concerns, Agreements and Problems

It may be reemphasized that the Indus River basin with its total area of 933,632 Sq. Km and a river length of about 2,900 Km remains one of the most important rivers of the world. It is also an important fact that not only Indus flows through the Indian and Pakistani territories but its tributaries also cross the international boundaries making it an area of conflict and cooperation between the riparian countries i.e. India and Pakistan. Indus is but constituted by many tributaries and numerous sub-tributaries.¹

Indus rises on the northern flanks of the Kailash Range, and flows in a great northerly curve until it breaks through the range to the Gartang river confluence.² This tributary continues the line of the main river through Kashmir, occupying a narrow corridor between the Kailash and Ladakh Ranges. Below the confluence the Indus River holds on a generally southeast northwest course until Gilgit river³ joins it at Bunji and it turns to round Naga Parbat.⁴ South of Lake Pangong, however, it makes a sharp bend and cuts through the Ladakh Range, which it pierces again above the Shyok river confluence.⁵ This great furrow on the whole is fairly graded. From the Gartang confluence to Bunji (725 Km) it slowly descends from 13,800 ft to 4,600 ft. Alluvial flats are found in the extreme east of its Kashmir course at about 13,800 ft. In the east -Ladakh proper- the whole catchments as well as the immediate valley is narrow, constricted between the closed basin of Pangong and Morari rivers.⁶ In the Baltistan the catchment widens somewhat. At Skardu, where northern Shigar comes in a few kilometers below the Shyok, the Indus is often over 500 ft deep even in winter.⁷ (see Figure 3.1)
Figure-3.1: The Indus Region
Figure-3.2: The Indus Basin (part plan)
The Ladakh Range between the two Indus gaps forms a remarkably straight wall for some 300 Km. Indus and Shyok flow parallel 40-50 Km apart, and between them the range rises 10,000 ft or more to a rather even crest at 19,000 ft.⁸

During its long course of journey in the high mountains the river just flows on its humble way. Both India and Pakistan till now have not shown any meaningful interest to tap its waters for irrigation or power projects. Moreover the area has sparse population without a notable urban concentration. There is no pressure on the use of water. Because of the rugged terrain there is no commercial or industrial activity for which water can be made useful. There are falls in the frontline of the ongoing territorial dispute between India and Pakistan.⁹ So priority of both the countries unfortunately is on the eyeball-to-eyeball defense preparedness rather than clearly defining their geopolitical interests in terms of any harnessing the water resources. Both the countries have not built or made effort to build any water resource management project on the Indus till it enters the plains.¹⁰

Indus River is joined by combined flow of Swat and Kabul Rivers in North West Frontier Province of Pakistan. Another batch of its eastern tributaries consisting of Kurram and Baran Rivers join the main Indus River at Chasma. Its western tributaries viz. Chenab, Jhelum, Ravi, Beas and Sutlej keep their independent flow and run parallel to the Indus. These tributaries emerge form Tibet (Sutlej) and various places in Indian provinces of Jammu and Kashmir (Jhelum) and Himachal Pradesh (Chenab, Ravi and Beas). At Panjnad confluence these merge to flow together and later become part of the main Indus River.¹¹

Of its eastern tributaries, Kabul River originates in Afghanistan. In fact it is a major river of Afghanistan, which has enough water and joins Indus. Rest of the rivers in Afghanistan are small which discharge into the lakes and swamps.¹²
The Kabul River has an average annual flow of 21.4 Km³. As far the question of sharing the waters of this river, both the riparian states – Afghanistan and Pakistan- are not known to have any dispute. Afghanistan has not harnessed or utilized the waters of Kabul River for hydroelectric purpose, except in Kabul-Jalalabad region. As a perennially war ravaged country Afghanistan has not even found time to think about such economically viable projects nor it has resources. However, Pakistan has built Warsak Multipurpose Project with 1,60,000 Kilowatt capacity on Kabul River 32 Km north of Peshawar. Suffice it to say that Afghanistan being outside the focus of our study has not been concentrated as far as its sharing of waters is concerned with Pakistan on Kabul River.

Similarly, Kurram River though rises in Afghanistan travels only for a short distance to enter Pakistan. Baran River is a sub-tributary of Kurram, which also originates from Afghanistan and joins Kurram River in N.W.F.P. in Pakistan.

Afghanistan has not shown any willingness in developing its water resources in the rivers that it shares with Pakistan. The country represents a tribal society busy in internecine intra-tribal conflicts. A hide-bound traditional if not ancient society, Afghanistan has not been able to develop any infrastructure nor industry and not even an urban centers except Kabul. Strangely, it feels that any big hydroelectric project will be worthless and unprofitable because it involves heavy expenditure and will consume scarce financial resources without worthwhile returns. The eastern tributaries of the Indus which emerge from Afghanistan, enter Pakistan and merge into Indus invariably have torrential flow in spring but negligible in the summer.

The Swat River rises from within Pakistan. It flows through the Tribal territory unhindered and unutilized. After entering the Peshawar Valley, during its flow it has been used only for irrigation purposes. The Swat canals departing from the river at Malakand (Upper Swat canal) and Abazai (Lower Swat canal).
The Kabul River has a limited irrigation and navigation value. After entering Pakistan, 32 Km northwest of Peshawar, Warsak Multipurpose Project has been built on it. During its short-length flow in Pakistan the river merges in the Indus opposite Attock taking along the waters of Swat.

The waters of Kurram and Baran Rivers are not utilized in Afghanistan. Most of their length flows in N.W.F.P. of Pakistan. Kurram enters Pakistan in Kohat district of N.W.F.P. The Kurram Garhi Project in these two rivers in Bannu Tehsil was completed. Kurram and Baran join together before merging into Indus just below Kalabagh (see Figure 3.2).

Similarly, the Gomal River (Gowmal or Gomal), Kundar, Zhob is another set of tributaries. Of them Gomal rising near Sarwandi on the Koh Nak range in Afghanistan enters Pakistan at Domandi, where it is joined by the Kundar River. On the other hand Kundar River rises in the plateau of Baluchistan in Toba Kakar Range. The river Zhob also rises in Baluchistan Plateau. After flowing northeast and then turning east it joins Gomal River at Khajuri Katch. From Domandi to Khajuri, Gomal forms the boundary between Baluchistan and N.W.F.P. It passes into the Indus few kilometers south of Dera Ismail Khan. Most of the waters of these rivers are used for irrigation in Dera Ismail Khan District and for a better part of the year its waters do not even reach the Indus. However during the peak season the WAPDA of Pakistan has built a small Gomal Dam Multipurpose Project to meet the power requirements of this region, partially.

The other river west Nara, now canalized for irrigation and some local navigation is probably an old Indus course. It expands in the south into the marshy Lake Manchar. It is alternately fed and drained by the Aral, a stream reversible as the Indus is high or low. At low water Manchar covers only 22 Sq. Km, and it has proposed to gain 20,000 acres for rabi crops by draining it entirely during the winter.

Along the eastern Nara small alkine lakes (dhands) are especially numerous. Important features are the two Kirthar limestone outliers, the larger
on the north reaching 400 ft and providing emplacement for Sukkur Barrage, the smaller (250 ft) carrying at its northern end the old capital Hyderabad, and sites of yet older cities.27

Other rivers include Sibi, Nari and Bolan. There is a dam on Nari Bolan.28 Ketch29 has its source in Makran Range, after flowing down it meets Dast River30 and then confluence falls into Gwater Bay. The Hangoli River rises near Brahui Range. After passing through Makran Range it falls into Sonmiani Bay.31

The eastern tributaries of the Indus thus discussed do not carry substantial quantity of water to the river. These rivers flow for their better course inside Pakistan and do not involve the other riparian state in a big way unlike its western tributaries. The eastern tributaries in no way are contentious so far as sharing of their water with Afghanistan where some of them originate. Their water is mainly used for irrigation. Some of these rivers are very small to play any role in the economy of the country. Moreover the political systems in Pakistan and Afghanistan have been such that the shared policy formulation for management of their water for optimum utilization has not attracted proper attention. The western tributaries of Indus viz. Sutlej, Chenab, Beas, Ravi and Jhelum play a major role in the economy of both India and Pakistan. It is only after these rivers join Indus that it becomes vast and further gains oceanic dimension at the delta. It may also be mentioned that India as well as Pakistan have and project their national interest in these rivers. Both the countries share the waters of the rivers and are mutually interlocked to be dependent on them. The rivers flow in the densely populated areas and industrial belts of both the countries and irrational or selfish control of the flow of these rivers by one directly and pinching affects the other country. During the last half a century of their existence, the problem of sharing of waters of these rivers have given anxious moments to both the neighbours. Thus, after discussing the eastern tributaries, we now take up the western tributaries of the Indus.
### Table-3.1

**Major dams and hydro plants of Indus Basin**

<table>
<thead>
<tr>
<th>Name</th>
<th>Year completed</th>
<th>River</th>
<th>Installed Capacity (MW)</th>
<th>Purpose</th>
<th>Country</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mangla</td>
<td>1967</td>
<td>Jhelum</td>
<td>1,000</td>
<td>Multipurpose</td>
<td>Pakistan</td>
</tr>
<tr>
<td>Tarbela</td>
<td>1976</td>
<td>Indus</td>
<td>3,478</td>
<td>Multipurpose</td>
<td>Pakistan</td>
</tr>
<tr>
<td>Bhakra</td>
<td>1963</td>
<td>Sutlej</td>
<td>1,050</td>
<td>Multipurpose</td>
<td>India</td>
</tr>
<tr>
<td>Pong</td>
<td>1974</td>
<td>Beas</td>
<td>360</td>
<td>Multipurpose</td>
<td>India</td>
</tr>
<tr>
<td>Thein</td>
<td>--</td>
<td>Ravi</td>
<td>480</td>
<td>Multipurpose</td>
<td>India</td>
</tr>
</tbody>
</table>

Source: Guidebook to Water resources, Use and Management in Asia and the Pacific, United Nations, 1995.

### Sutlej

Sutlej breaks right through both the Great Himalayas and the Zaskar Ranges, thus forming perhaps the most striking physical feature of the region. Sutlej is a young river, developed by collapse along a line of weakness—a Gondwana trough continued by the line of Gaggar. The great cleft, 5,000-7,000 ft deep and 160 Km long in a straight line from north of Shimla to Shipki, bears all marks of youth, in strong contrast to its upper valley in Hundes or Nari Khorsum (Tibet). This is a broad arid basin at 14,000-16,000 ft, filled with detritus in which the glacier-fed river has cut a canyon said to be 3,000 ft deep in places. At one point the Sutlej/Karnali watershed is reported to be level of “alluvium”. The fall of the river itself is steep enough—5,000 ft in about 320 Km from Rakas Tal to Shipki, and has cut 600-700 ft deeper than its neighbouring rivers Beas and Giri (Jumna). The upper lake, Mansarover, has a water connection with Rakas Tal, at least in summers.

Between the Zaskar and Great Himalayas crossing the Sutlej receives the Spiti River waters from northwest, which leads us to Rupshu. Here too, the river is sunk deep between alluvial terraces. The upper basin of Spiti River, in Rupshu, has been separated by local uplift combined with the accumulation of detritus. It has only closed lakes, of which the most important is Tso Morari.
The major projects which have been already commissioned or under construction include Baspa project in Sangla valley in the District Kinnaur in Himachal Pradesh. Nathpa-Jakhri megaproject on the run of the river has already been partially operational. Bhakra Dam on Gobind Sagar in Himachal Pradesh and Nangal Dam, Beas-Sutlej Link project (by bringing water from Beas to Sutlej just upstream of Gobind Sagar reservoir, through a tunnel) and RCPAR irrigation project. On the Pakistani territory Tarbela Multipurpose Project, commissioned in 1976 are the major projects on the Sutlej.38 (See Table-3.1). Gradually descending the river is still 10,000 feet at Shipki, and 3,000 feet at the town of Rampur in Himachal Pradesh. Downstream, the Bhakra Dam, covering 320 Sq. Km of the Sutlej course, dams the river. Also located 13 Km further along the channel is another large dam, the Nangal Dam. From this point the river flows southeast for sometime along the Jaswan Dun, a fertile valley situated between the Shivalik Hills and Outer Himalayas. After the confluence with the Beas, the Rajasthan Canal takes some of the waters of the Sutlej far in to the desert.39

**Chenab**

The Chenab River rises in Himachal Pradesh and after passing through Jammu and Kashmir, enters Pakistan near Merala. The Chenab now has already absorbed the Ravi and the Jhelum. The final stretch of the river from the Chenab confluence to the junction with the Indus is called the Panjnad, the Five Rivers.40

**Beas**

It rises at an altitude of over 13,000 feet in the Himalayas and is one of the five great rivers of the Punjab. The Beas is 325 miles long and flows down south through Kulu valley, then swings west and south-southwest to join the Sutlej River. The Beas was the eastern limit of Alexander the Great’s invasion in 326 B.C. It was here that the great commander turned back towards his homeland only to die in the journey. Pong Multipurpose dam of 360 MW capacities was built in 1974.41
Ravi

It rises in the Pir Panjal Range of the Himalayas in the northwestern India. The Ravi is one of the five rivers of Punjab. It is 760 km long and flows west-northwest and southwest past Lahore to join Chenab River.42

Jhelum

It rises in the upper end of the Kashmir valley. On its course to the Wular Lake, 5,180 feet above sea level, it passes through Srinagar and receives the waters of several mountain streams. From the Wular Lake, the river leaves the fertile valley and rushes headlong down a deep gorge between lofty mountains. Lower down, for some distance, the river forms the boundary between India and Pakistan. It enters Pakistan below Mangla, where Mangla Multipurpose Dam of 1,000 MW capacity was completed in 1967.44

NATIONAL INTERESTS AND CONCERNS IN SHARING OF WATERS BETWEEN INDIA AND PAKISTAN

The Independence Act45, passed by the British Parliament on 18 July 1947, together with the awards of the Boundary Commissions46 appointed under the Act, which were published on 17 August 1947, define boundary between India and Pakistan. But several disputes arose regarding the exact location of the boundary between India and Pakistan (East and West).

The Act did not concern itself with the relation between India and Pakistan in regard to the sharing of the waters of the Indus basin. Ironically, it was not possible, as the boundary between the two was not exactly known when the Act was passed on 18 July 1947. It was probably thought by the British in their wisdom that the use of river waters would be governed by the possible agreement to be reached between the future Governments of the two countries. They assumed that certain exigencies would certainly arise to force them into agreements for sharing the hitherto common waters. Even if some decisions47 had been taken in the process of partition in regard to the existing
canals, the general question of sharing unused waters of the rivers could not have been possibly addressed to.

The annals show that the partition of India was implemented with such haste that there was no sufficient time to divide the Indus waters or the related assets. Sir Cyril Radcliffe, Chairman of the Punjab Boundary Commission, was entrusted with the task of demarcating the boundary between India and West Pakistan (east Punjab and west Punjab). He stated that the fixing of the boundary was “complicated by the existence of canal systems, so vital to the life of Punjab but developed only under the conception of a single administration”. He suggested that some arrangements of joint control of the in takes of canals taking off the Ferozepur Headworks should accompany the demarcation of boundary but, within his terms of reference, he could not proceed to lay down any such arrangements. It was further suggested “to preserve undivided the irrigation system of the Upper Bari Doab Canal”, with a hope that “a solution may be found by agreement between the two states for some joint control of what was hitherto been a valuable common service.” Not that the question of water sharing was entirely neglected, the princely states of Bikaner (now in Rajasthan) and Bahawalpur (west Punjab, Pakistan) gave their representations before the commission to secure the flow of water in Bikaner canal as the origin of the canal was located in Ferozepur Headworks in east Punjab. Radcliffe ruled: “an interest of this sort cannot weigh directly in the question before us... since the territorial division of the provinces does not affect rights of private property...”.

The Commission’s suggestion of some agreement between India and Pakistan for joint control of the Headworks was neither tenable nor possible given to the tragedy of partition and the unfolding of gory events thereafter. The large-scale and bloody migration from both the sides of the new border which continued for about four months, with horrifying tales of mass killings, abductions and human misery everywhere. The division of the British India was based on communal lines between the two major communities –Hindus and Muslims. The communal frenzy and surcharged atmosphere led to a
relationship of distrust and suspicion between the two countries. The possibility of mutually agreeable long-term solution thus became remote. Had both the countries been more pragmatic, in fact sensible the immediate problem of continuing water supplies to the numerous canals then in existence in the Indus basin would have been relatively simple. Most of the large canals lay entirely in Pakistani Punjab and a few entirely in Indian Punjab. There was only one canal system - U.B.D.C., with its head-works at Madhopur in Indian Punjab - which had been severed by the new boundary at several places and there was the Dipalpur Canal which, though irrigating wholly in Pakistani Punjab, had its head-works at Ferozepur and about less than 1 Km of its length below the head-works in Indian Punjab. Accordingly, the lower portion of several channels of the U.B.D.C. came to lie in Pakistani Punjab (renamed by Pakistan as Central Bari Doab Canal (C.B.D.C.)) had to receive their water supply, after partition, through the upper portions of those channels in Indian Punjab. The Dipalpur Canal had to receive its waters from above a barrage under the management of Indian Punjab. Furthermore, the barrage at Ferozepur also regulated the river supply between canals taking off this barrage and those taking off the lower down Sutlej at Sulemanke and Islam in Pakistani Punjab.57

Since the British developed the irrigation system for combined Punjab which became subjected to partition. The canals interspersed the political boundary between the two countries dividing the head and tail of most of the canals unrealistically, it became an immediate concern of both the countries as how to find an amicable solution. Which was not simply in sight. To begin with, at the instance of Pakistan, it was agreed that two Chief Engineers from each side enter into an agreement, on 20 December 1947, it was agreed to continue the status quo on the U.B.D.C. and at Ferozepur. The Punjab Partition Committee approved the agreement the same day.58 This agreement was to end on 31 March 1948. It was agreed that a further agreement for any period subsequent to the aforesaid date could be negotiated.59 There was no immediate problem on the remaining canal systems in the Indus Plains –
numbering 133 in Pakistan and only 12 in India. These canals continued to supply water to more than 95% of the irrigated area in both the countries. At Mangla on the Jhelum, where the head-works and about 32 Km of the Upper Jhelum canal were in India, according to an agreement (1904) between the British Government and the Kashmir Durbar, the construction, maintenance and operation of works had always been under the control of Punjab Government; after partition, these activities were taken over by West Punjab. At Suleimanke on the Sutlej, the head-works was wholly in Pakistan and the short lengths of the Sadiqia and Fordwah Canals in India remained under the control of the West Punjab Government. Only a part of the river training works above Suleimanke were in India; this did not interfere, in any way, with the regulation activities at the head-works.

As a consequence of partition, out of 26 million acres of land irrigated annually by the Indus Canals, 21 million acres went to Pakistan and only 5 million acres to India. Most of the highly developed canal systems, the famous canal colonies, the granary of Punjab also went to Pakistan. It was in contrast to the division of population. According to 1941 Census the total population of Punjab numbered about 46 million of which 25 million went to Pakistan and 21 million to India (on the basis of 1941 basis).

India was faced with multiple problems in the aftermath of partition. As if the influx of millions of deprived and maimed refugees from Pakistan was not enough, it faced problems on agricultural front. The political division of Punjab not only disrupted the food supply line of the 21 million in India but also severed suddenly the hydrological unity of the river and canal system and posed serious obstacle to the development of millions of acres of highly arid but otherwise fertile land in the Indian part of Indus basin mainly in Indian Punjab. As it is clear that the irrigation network based on canal systems, developed by the British mostly went to Pakistani Punjab, it became immediate but uphill task for the Indian Punjab’s administration to develop a new canal system to cater to the needs of hitherto undeveloped areas which eventually became a part of Indian Punjab.
The political/territorial division inevitably divided the waters—the canal systems and rivers. India was deprived of most of the canal systems but all the western tributaries of Indus flow from India to Pakistan. Which means India could control the ebb and flow in the rivers to the disadvantage of Pakistan. The strict control/change of the course of these rivers had the potential to render the canal system of Pakistani Punjab dry. This could severely affect rather endanger the agriculture and thus economy of the fledgling state of Pakistan.\(^66\) (See Figure 3.3)

Since the relations between the two countries were not cordial since the day one of their creation, the mistrust spilled over to the every possible area of mutual interest. The water is lifeline of any economy more so if it is agricultural economy, which India and Pakistan essentially remain. The clash of interest between the two neighbours compounded over time. Pakistan’s fears were more real as India—being an upper riparian state—could pull the levers to stop the flow of water to turn Pakistan into a desert.

India was going ahead to commission its pre-partition plans to build dams at Bhakra and Nangal on the river Sutlej. These dams once became operational would severely regulate the waters of Sutlej. A new system of canals in Indian Punjab—which it lacked then—was going to built. This system was necessary to irrigate the hitherto arid lands of this region and to develop agriculture. Once the new canal network was in place, India will divert Sutlej water to its own canals rather than to Pakistan. Pakistan was well aware of these plans and knew that it would adversely affect its then existing irrigation of 21 million acres of fertile land. Another problem facing Pakistan was the menace of salinity, which was assuming large proportions.

To dispel the Pakistan’s fears India’s Prime Minister Jawaharlal Nehru stated in response to the telegram from the Prime Minister of Pakistan on 16 April 1947.\(^67\)

“... As conference is now being held in Simla to consider this problem. I trust satisfactory solution will be reached.”
Figure-3.3: Punjab canals and Indo-Pakistan boundary

However Pakistan was not convinced and remained suspicious and fearful of Indian intentions. Five years later, Pakistan stated in an official publication:

“The economy of West Pakistan is agricultural.... The flow of water in rivers and canals is the life-blood of our country. Yet, in April 1948, shortly after Partition, during the critical period for sowing summer crops, India cut off this flow in every canal crossing the border.... In an area as arid and densely populated as the Indus basin, the appropriation by one community of water of another is an act with tragic and far-reaching consequences. In its implications and results, such an act can be more devastating than the armed attack....”

It is a known fact that most of the rivers emanating from Himalayas are full with water during the Monsoon. They cause floods and devastation during this time. The rivers in this region are no exception. Also water is much less the requirement during the lean season April to June in these rivers. Incidentally, this is the time Rabi crop is ready and Kharif crop is sown in Indian and Pakistan’s Punjab. Pakistan feared that India could turn-off and turn-on the waters at its will. India could stop or release meager water when it was most required for crops and release extra water in full swing during the Monsoon when water was not required. This untimely release of water could cause floods and wash away its crops. Thus the immediate problem of Pakistan was to assure continuity of water supplies to C.B.D.C. and Dipalpur Canal from the installations under the control of India. Pakistan’s interest lied in timely, regular and smooth flow of the waters from the rivers it shared with India.

AGREEMENTS

The 1948 Agreement

Standstill Agreement of 20 December 1947 envisaged the maintenance of the status quo on the U.B.D.C. and the barrage at Ferozepur. The agreement was come to an end on 31 March 1948. The volatile circumstances prevailing at that point of time did not warrant that both the sides could sit amicably to ponder over problem and arrive at mutually acceptable solution. The pressure was supposedly more on Pakistan –being lower riparian state- so that it was to
get uninterrupted supply of waters in its rivers and canals coming from India. However, facing host of domestic problems, meddling into Kashmir affairs and the prevailing sticky situation or the mere egoistic tendencies of Pakistan’s establishment did not allow it to sign treaty with India at the expiry of Standstill Agreement.

On expiry of 1947 Standstill Agreement, India cut off the supply of waters to Pakistan's canals on 1 April 1948. The impact of cut off was far reaching. It not only proved the worst fears of Pakistan but also for the first time, Pakistan felt the impact of partition on its irrigation system. Protesting on denial of water, Pakistan tried to internationalize the issue. It contended that its rich and fertile land would dry up in a week and its ten million population would starve. Pakistan was also worried about the water supply to its principal city of Lahore that was entirely dependent on Ravi water. Pakistan regarded the stoppage of water supply by India as “undeclared non-violent war”.

The gravity of the situation stirred both the countries into ministerial negotiations in April 1948. As a result, on May 4, 1948 an Inter-Dominion Conference was held in Delhi, which paved way for an agreement signed by Prime Minister of India and Finance Minister of Pakistan. India agreed to resume the supply of water and Pakistan agreed to develop in due course alternative resources for the water supply from the Eastern Rivers belonging to India.

Contrary to the provisions of the Agreement, Pakistan could not take steps to find out alternative sources for the water supply from the Eastern Rivers. She based her above claims on the Principle of International Law related to “lower riparian”, “proper appropriation” and “equitable distribution”. The continuing quarrel over Kashmir contributed its share. Pakistan argued that Indian control over Kashmir, particularly over the upper Chenab valley, endangered the sources of existing Pakistan
India wanted to impress upon Pakistan the necessity of development programme for her (Pakistan) water resources. On the proposal of India in the Inter-Dominion Conference of August 1949, a preliminary negotiation committee consisting of the representatives of both the countries was appointed to conduct negotiations for the establishment of a joint technical commission. However, according to the letter of the Prime Minister, Liaquat Ali, dated August 23, 1950, Pakistan refused to accept domination of its share of supplies from Eastern rivers. The Agreement of May 4, 1948, was declared void on the ground that Pakistan was forced to accept it under duress. Thereafter Pakistan insisted on her legal rights to the waters and asked for a reference to the International Court of Justice. India rejected the suggestion because there was no precedent of river dispute having ever referred to the court.

Role of the World Bank

As both the countries failed to resolve the deadlock the World Bank offered its mediation in resolving the dispute. The Bank deputed D.E. Lilienthal to South Asia in February 1951. He considered the ongoing dispute being dangerous for the peace of the region and opined that the dispute was essentially “a feasible engineering and business problem and not a religious or political problem” particularly because the Indus had enough water resources for use of both India and Pakistan. On the basis of Lilienthal report, Eugene Black, the then President of the World Bank, wrote to the Prime Ministers of India and Pakistan to solve the dispute on the basis of financial plan independent of political issues and without relation to past negotiations and claims.

On March 13, 1952, both India and Pakistan agreed that “neither side will take any action to reduce the supplies available to the other side for uses” so long as the cooperation of the World Bank continued to be received for the final settlement of the disputes. A working party of engineers one each from India, Pakistan and the Bank was established to collect information.
needed for reaching upon an agreed solution. The working party completed the technical survey of the canal water.

On October 6, 1953 both India and Pakistan submitted their plans in which they differed considerably in regard to their assessment of future needs and possibilities. Pakistan desired to confine the Working Party to a consideration of what Pakistan called the three “common” rivers, the Ravi, the Beas and the Sutlej (and to keep the Chenab, the Jhelum and the main Indus outside the scope of its discussions) for the purpose of determining the “surplus” waters, i.e., waters over above what Pakistan regarded as “existing” uses, and then to proceed to a distribution of only such “surplus” between the two countries. India, on the other hand, felt that the Working Party had to determine the total water available in the entire river system, the total requirements of the two countries, including those for areas already irrigated, and then to proceed to allocate the total waters between the two countries, taking into account the total requirements of each.\textsuperscript{84}

After due deliberations among the members and through the lawyers of both India and Pakistan the following “outline of the programme” was agreed upon:\textsuperscript{85}:

\begin{quote}
“Determination of the total water supplies of the Indus basin and their subdivision into such categories as either side requests.

“Determination of water requirements of the culturable irrigable areas in each country, such areas to be specifically shown on the index map, and the subdivision of these requirements into such categories as either side requests.

“Calculation of such derivative data and collection and compilation of such basic data and making of such surveys and investigations as either side requests for working out a comprehensive plan.

“Preparations for comprehensive plan.

“Preparation of cost estimates and determination of construction schedule of new engineering works included in the comprehensive plan.

“Note

“The Working Party will collect and verify the engineering accuracy of all the data whether expressly mentioned above, mutually agreed to or requested by either side but the acceptance of any data or the inclusion of any topic of study in the programme does not commit either side as to its relevance or materiality.
\end{quote}
"If such data is not available, the matter will be discussed by the Working Party and agreement reached as to the time required for its collection and estimated cost thereof. When the time and cost in a particular case are unusual the Working Party will reconsider the advisability of collecting the data."

India was satisfied with the “outline of the programme” as it will help to sustain India’s position. It became acceptable to Pakistan only because of the freedom it gave to Pakistan to have the Working Party consider whatever data of study Pakistan might request. Further India and Pakistan each agreed:

- to place before the Working Party, a statement of her own irrigation requirements as well as of total water available in all the rivers of the Indus basin, prepared in accordance with her own views;
- of the basic data to be adopted for water studies as well as on some preliminary engineering details necessary for proceeding with these studies such as would give comparable results;
- to prepare a comprehensive plan after these studies had been completed and results discussed by the Working party."

As India and Pakistan had conflicting views of the problem and the working party of engineers too failed to evolve any mutually agreed solution to the canal water problems, the World Bank submitted its own plan in February 1954. The Bank’s plan suggested that the three eastern rivers (Ravi, Beas and Sutlej) should be used for Indian irrigation, that the three western rivers (Indus, Jhelum, and Chenab) should be used by Pakistan, and that India should pay the cost of Pakistani construction of new replacement canals. More specifically, the Bank proposed that Pakistan build new canals to transfer water from the Indus and the Jhelum into the Chenab and Ravi to compensate for losses due to India’s new dams and works on the upper Ravi, Beas and Sutlej. India accepted the plan. Pakistan’s government hesitated and asked for reexamination. Pakistan press severely criticized it as unacceptable. Under the public pressure, Foreign Minister of Pakistan announced, “we are not accepting or rejecting the Bank Plan.”

On July 8, 1954, the Bhakra Nangal canals were opened with great fan fare. Pakistan reacted against it as a “potential threat to peace”, Pakistan’s Prime Minister opined that “the opening of the Bhakra Canal on July 8 is the most serious and the most recent violation of the agreement of March 13.
On August 5, 1954, Pakistan announced its readiness to consider the Bank plan as a basis of negotiation. Pakistan kept its pressure and complained, sometimes unsubstantiated, about Indian efforts to cut down the supplies of water from Ferozepur Head works. Pakistan also claimed that Chenab did not have enough waters to meet its needs so the flow of water from Sutlej should remain unhindered. However, after incessant efforts by the World Bank and representatives of the two governments some *ad hoc* transitional arrangements were agreed upon as a precursor to the final settlement. 

While India showed ample interest to reach a final solution, Pakistan’s Government hesitated. In fact, it was because of conflicting advice from its experts, uncertainty about the feasibility of the Bank plans and distrust about Indian intentions could be the main reasons for this attitude.

In the mean time Pakistan decided to construct Mangla Dam Project. As the proposed dam was to be constructed across the Jhelum Canal regulators, India protested against this move of Pakistan considering it illegal. India further contented that the area concerned fell in Azad Kashmir, which was under the “illegal” occupation of Pakistan.

It was in this background, Iliff, the Vice-President of World Bank, visited the South Asia in the summer of 1957. He made certain suggestions based on the principle of “division of the rivers” for the solution of the problem. Neither India nor Pakistan felt happy over these suggestions. Being annoyed with the continuing deadlock Indian Irrigation Minister S.K. Patil declared that India would not wait for more than five years for withdrawing the waters from the three Eastern rivers. India considered such a step necessary for catering to the needs of her own canals in Rajasthan and Sirhind. The Indian pronouncement created an alarm in Pakistan. It was described as “a threat to Pakistan’s political and economic security” and its implementation would be tantamount to “an act of aggression” against Pakistan.
Iliff paid another visit to South Asia in January 1958 for making the parties agreeable to the proper approaches towards the settlement of the problem.

The spirit of understanding, animating from the Nehru-Ayub meeting at Palam had a favourable impact on the settlement of the canal water dispute. The tripartite conference between India, Pakistan and the World Bank, going on in London, gradually made headway to settlement on the basis of an international water treaty between the two countries. Talks were to be resumed in Washington. A new hope for the success of the tripartite conference came to be engendered by the US decision to give financial assistance to the Indus Water Treaty Project.

The Washington tripartite meeting could be able to draft the Indus Water Treaty by the end of the year 1959. It was hoped in March 1960 that other minute details would be filled up within two months. On April 7, 1960, Eugene Black, the President of the World Bank, announced that the two parties had accepted a settlement in principle.

**Indus Waters Treaty (1960)**

The negotiations at different levels between India and Pakistan, mediated by the World Bank took along time to bring both the countries to an agreement. Intensively, the treaty making process took about 15 months from May 1959. The final phase of talks held in London and Washington paved way for the famous Indus Waters Treaty. The treaty also owed its culmination to the finances, which were to come from I.B.R.D. (World Bank). The making of treaty was an arduous task as hard bargaining and interplay of various forces was obvious. Various drafts were agreed and disagreed upon before the consensus on the final text.

The Indus Waters Treaty between India and Pakistan signed at Karachi on September 19, 1960 was a historic event. It brought an end on international dispute, which involved complicated legal, economic, political and even strategic questions. Prefixed by a preamble, twelve main articles the Treaty
also provided for the formation of the Indus Basin Development Fund. The preamble recorded the desire of the two countries to make “the most satisfactory utilization” of waters of the Indus system by “fixing and delimiting in a spirit of goodwill and friendship the rights and obligations of each in relation to other.”

The Main Features Of The Treaty:

1. The waters of the three Eastern Rivers—The Ravi, the Beas and the Sutlej—would be available for unrestricted use by India after a transition period.

2. The waters of the three Western Rivers—The Indus, the Jhelum and the Chenab—would be allowed to flow for unrestricted use by Pakistan, except for some limited use in Kashmir.

3. During the transition period of ten years, India would continue to give some supplies from the Eastern Rivers, in accordance with detailed regulations set out in the Treaty.

4. The two countries would regularly exchange data regarding water flow, withdrawal etc.

Apart from this two other agreements were signed in Karachi on September 19, 1960: an international financial agreement to create the Indus Basin Development Fund to finance the irrigation works in Pakistan and a $90 million loan by the World Bank to Pakistan. The Fund was created with the contribution of Australia, Canada, Germany, New Zealand, Britain, the United States, India, Pakistan and the World Bank.

The politico-legal approach towards a solution of the Indus waters dispute, which was followed by India and Pakistan, for about four years (4 May 1948 to 13 March 1952), did not bring the parties near a solution. While this approach did provide a working basis to tide over initial difficulties and an “agreement to agree”, this agreement itself became a controversial issue between the both. The Indus Treaty became possible by prolonged...
negotiations following Eugene R. Black’s proposals that problem “should be solved on a functional and not political plane, without relation to past negotiations and past claims and independently of political issues.” However it was naïve to presume so. The politics did influence the course of negotiations, or the ultimate settlement.

The negotiations had obviously to be carried out in the prevailing political atmosphere that was not at all conducive to settlement, certainly not until a stable government, under Ayub Khan, assumed power in Pakistan.

In India, after the dispute had been taken over by the Central Government. East Punjab Government which had been taking active part in the earlier politico-legal discussions up to about 1949, gradually ceased to participate in the negotiations and, like other State Governments concerned, left the settlement almost exclusively to the Central Government. On the other hand, in Pakistan, the State governments of West Punjab and Sindh and, for some time, also of N.W.F.P. and Bahawalpur, continued to participate in the discussions, through their representatives, until 1955, when the States were all merged into a single entity – West Pakistan. The Indian delegation was fully assured of government backing, which helped it in articulating its national interest. On the other hand, weak and changing governments in Pakistan placed the Pakistan negotiators in difficult positions, sometimes because of government instructions or lack of them, at other times, possibly because of the role assigned to hired foreign consultants, engineers and lawyers. This was scenario adding confusion to the chaos and the overall national interest of Pakistan was not sharply emerging out of negotiations.

It was Pakistan’s political weakness, apart from what may be called the “down-stream neurosis”, that was largely responsible for periodic publicity campaigns by Pakistan. Being an upper riparian state, India was in advantageous position and needed not to indulge in much publicity campaign except to answer Pakistan’s allegations.
The non-settlement of the status of Kashmir featured prominently all through the negotiations in one form or the other. Even though the connection between Kashmir and the Indus water was “associative and sentimental rather than practical”. Pakistan found it politically expedient to use the Indus waters as one of the planks to support her claim on Kashmir, and to use her dependence on these waters as the locus standi of her intervention in Kashmir.

This was indicated in the report of 609th meeting of the United Nation’s Security Council (16 December 1952), referring to the “general offensive of the Indian Army in Kashmir”. It states:

“... Among the objectives of the offensives had been the capture of the head works located in Kashmir, of the irrigation system supplying the Pakistan part of the Punjab. In that connexion, the Pakistan representative emphasized his country’s dependence upon its water supplies and the fact that India had on 1 April 1948 already taken advantage of its position to cut off for a period the flow of the waters of rivers rising in India and flowing through Pakistan. In the situation, the Pakistan Government had decided to send its own troops to stop the further advance of the Indian Army...”

The Pakistan’s representative to U.N. Zafrulla Khan had also stated similarly that:

“49. As a result of India’s action, the Mangla Head works were again in danger. The Mangla Headworks —and I now revert to Kashmir—controlled the flow of Jhelum River with regard to the irrigation system based upon the river in West Punjab. The Headworks lie inside Kashmir territory. The military offensive launched by India in the spring of 1948 had as one of its objectives the capture of those Headworks”.

It was not merely the domestic politics of India and Pakistan; their relations and the lack of them, which influenced the negotiations and the settlement. Current international scenario also influenced the negotiations and their final outcome. The Governments of U.K. and U.S.A., through their diplomatic representatives, all along kept a close watch on the developments relating to the Indus water dispute. The United States had encouraged Lilienthal’s visit to the subcontinent in early 1951 and had later given the full support to Eugene Black offering the World Bank’s good offices; as a relatively new organization, the World Bank had to have some such support before undertaking the task.
An important factor that influenced the course of negotiations and the ultimate settlement was U.S. military aid to Pakistan. To begin with, this aid was at least partially responsible for Pakistan’s towards the Bank’s proposal of 1954. From May 1954 Pakistan begin to receive American military aid.

Much of U.S. Postwar foreign policy was centered on her efforts to adjust to her new position and to the realities of the postwar world. The aftermath of the Second World War witnessed a drastic change not in traditional interests, but in the traditional policies and the attitudes of the United States. By 1947 the new pattern of American foreign policy was set. It manifested itself in the following political innovations: containment of communism, and the American military alliance system like N.A.T.O., S.E.A.T.O. and C.E.N.T.O. Foreign aid and liberation were added to them in 1950s. Pakistan became member of S.E.A.T.O. and C.E.N.T.O. ensured concomitant benefits to its economy and hard needed defense equipments.

Jawaharlal Nehru, while commenting over U.S-Pakistan the military alliances, observed in Parliament:

“It is clear that the approach of military pacts like the Baghdad Pact and SEATO is a wrong approach. It sets in motion all the wrong tendencies and prevents the right tendencies from developing... Moreover SEATO and the Baghdad Pact apart from basically in wrong directions affect us intimately. In a sense they tend to encircle us.”

Possibly in order to allay India’s fears Pakistan President Ayub Khan offered to Indian Prime Minister Jawaharlal Nehru in April 1959 a plan for joint defence of the Indian subcontinent. He suggested that in case of external aggression both India and Pakistan should come together to defend the subcontinent. Jawaharlal Nehru turned down this suggestion. On May 4, 1959, he observed in the Lok Sabha:

“We do not propose to have a military alliance with any country, come what may, I am all for settling our troubles with Pakistan... but we do not want to have a common defence policy which is almost some kind of a military alliance”

This way Pakistan tried to bolster its negotiating position viz. a viz. India. The aid from U.S., Commonwealth Countries and West Germany
became the *raison d’etre* of the large and unprecedented financial programme, which was an important consideration for Pakistan in accepting the ultimate basis of settlement.

About the same time The Round Table¹¹⁷, a quarterly review of British Commonwealth Affairs, wrote:

"... If agreement on such lines were reached, the World Bank, no doubt, take the lead in persuading Commonwealth countries, the United States and Western Germany to assist India and Pakistan to obtain the necessary capital funds. This would be a small price to pay for the composition of a dispute which can at any time flare up into a serious threat to peace. It is only a matter of weeks since Pakistan complained... But both India and Pakistan will be the losers if impatience and mistrust are allowed to frustrate the new efforts which the World Bank is making in London to move towards a solution of the problem".

Significant in this connection also is the statement of Eugene Black:¹¹⁸

"The billion dollars or so that will be spent would not cover the cost of a single week of modern war. To devote it to a peace along the Indus is to make an investment that we and generations to come may consider well worth the price".

**Significance of the Treaty**

The President of Pakistan Mohammad Ayub Khan said while signing the Treaty "an event of great historic significance for the two countries concerned...for the whole world", and added¹¹⁹:

"I have no doubt that if we work in the same spirit and harmony it will promote trust and understanding between the peoples of the two countries"

Speaking before signing ceremony of the Indus Waters Treaty at Pakistan President’s house in Karachi Jawaharlal Nehru said¹²⁰:

"We are going to have many benefits out of these arrangements, but greater than the material advantages are the psychological and emotional benefits. It is a symbol of unity and co-operation between the two countries"

The Treaty was welcomed in foreign press as "a proof that apparently insoluble international conflict may sometimes at least yield to determination."¹²¹ The editorial of the *Washington Post* wrote that the Indus Project was bound to encourage mutual respect and trust that would produce
the atmosphere for further understanding. In United States the signing of the Treaty was regarded as “the inauguration of new chapter in the conduct of international relations.” and a piece of “farsighted statesmanship” on the part of Indian Prime Minister Jawaharlal Nehru and Pakistan’s President Ayub Khan.

In both India and Pakistan the Treaty was a “great” and “unparalleled” opportunity for the promotion of better relations in the future.

The Communist Party of India said in a statement: “The settlement of this longstanding canal water issue which at times seemed insoluble and caused little anxiety is convincing proof that there is no dispute, however, big or complicated, that is incapable of solution through negotiation…” But to Jan Sangh “Canal Treaty Agreement was disappointing document.”

However, the Treaty had some critics in both the countries. In India, it was held that the contribution of Rs. 89.33 crores by India to the Indus Basin Fund was unfair burden and the Treaty might cause shortage of water supply for the development of Rajasthan areas. On these points the settlement was criticized as a “treaty of surrender”, “anti-Indian interests”, and act of India to “placate Pakistan”. In Pakistan also, some resentment was expressed over the loss of the three rivers.

Speaking in Indian Parliament on November 30, 1960, Jawaharlal Nehru assured the critics of the Treaty that, “The mere fact that it has taken twelve years should at least convince the House that nothing –no coma, no full stop- has been accepted without the longest agreement and closest attention to it in detail”. In such matters as water supply, he said “What one gains is indefinitely more than the sum we may now give or later. The position of being able to get free supply of water after the ten years period was a tremendous gain. In dealing with this problem a balance had to be struck.”

The Indus Water Treaty was neither a complete breakthrough from the past plans of the World Bank nor ideally suited to the overall interest of the
two countries. It was, as Pakistan President Ayub Khan said in an interview to Pakistan Times on 20 September 1960, “a compromise solution”. The Indus Water Treaty was one of good patches in Indo-Pakistan relations. To President Ayub Khan, “implementation of the Treaty will call for close and continuous cooperation between administrators and technicians of the two countries for many years...in the same spirit of understanding and accommodation in which it is being signed today. I have no doubt that working together in harmony will prove to be more important factor in promoting trust and understanding between the people of two countries.”

Statesmanship on the part of Jawaharlal Nehru and Ayub Khan and persistence of the World Bank helped to resolve the Indus waters dispute to the advantage of both India and Pakistan.

PRESENT PROBLEMS AND PROSPECTS

The Indus treaty has considerably served India and Pakistan. It has proved to be capable of optimization with considerable advantage to either side without prejudice and without compromising their sovereignty. Their vital interests or established water share has been protected to their satisfaction. But the ever-changing topography, demography, urbanization and industrialization have consistently given rise to previously unforeseen problems. The growth of human and animal population, the increasing demand for fodder or fuel for meeting domestic energy needs and the rising industrial demand for forest products have rapidly decreased the forest cover and deteriorated waters quality. The reduction in forest cover has seriously resulted in soil erosion, droughts, floods and ecological damage on a scale leading to desertification. During the past 54 years of their independent existence both the countries built dams and developed canal systems with possible planning of a hundred years or so. The scarce resources put into such projects seem to be going down the drain. Observations show that the average rate of sedimentation in most reservoirs is four to six times as high as the rate was assumed at the time of
their designing and commencement. The life expectancy of these projects, is therefore, being reduced significantly by soil erosion in their catchments.128

Apart from the problems accruing from natural/environmental reasons, the ever-present mutual suspicion between India and Pakistan has not allowed the temper of cooperation to the fore. No agreement – let alone the Indus Waters Treaty – between or among the nations can pay expected dividends until the involved parties guard its spirit. The same has not happened in the present case. At the most it was a marriage of convenience.

The well-known water strategists also apprehend that the water resources planning projections are normally given a time span of fifteen to thirty years. Some discussion should now be initiated, both nationally and internationally, on the time period assigned to the planning horizon.139 The Indus Waters Treaty is already 40 years old and need to be looked into in the changed geo-political environment.

Unilateral efforts with the precinct of national boundaries have failed to produce spectacular results. The management of Indus waters has been obstructed by the hydrological interdependence of the riparian states. In the case of Indus River system, it needs to be emphasized that optimum exploitation of the water resources cannot be done on a single country basis. Rivers do not obey political boundaries and freely flow across countries to bind the riparian states in natural bonds of hydrological interrelatedness. Utilization of river water by one riparian state can directly affect the quantity and quality of water available to another riparian state. As the altitude zones and relief of the river system cut across national boundaries, any development effort requires the cooperation of upper and lower riparian state. Hence, a single nation approach to the development of cross-country river system will inevitably meet with inter-state problems. Joint regional planning is then only viable strategy for the optimum development of such river system.140 Reason being one occasionally finds floods and devastation on Indian or Pakistani side of the Basin. Both the countries willfully lacking required will for proper
cooperation and communication accuse each other for floods. The manipulative tinkering with water flow aiming ill will to other is also common if not the order of the day.

However, an integrated development strategy is also not that easy to implement between two sovereign, independent nations. Rather such a strategy is difficult to have within a country especially if it has a federal structure. For example, in India, development of water resources of rivers flowing through a number of its states has proved to be complicated and difficult\textsuperscript{141}, requiring the coordination and cooperation of various state governments and agencies whose interests have not always coincided. The extent and nature of the problems are greatly magnified in the case of international rivers for here sovereign governments are involved, each pursuing its national interest.

Indeed bilateral or multilateral efforts to develop a river system are a major issue of foreign policy, producing an offspring termed “fresh water diplomacy”. Fresh water diplomacy can work smoothly if political relations among the states concerned are friendly and if a shared desire and will to exploit the water resources for shared benefits can draw the capital inputs required. On the other hand, there is a possibility of water diplomacy running into rough if their relationship is less than friendly. In the latter event, mutual fears and suspicions strain the reach of water diplomacy. Each state wants to protect certain security sensitive areas from the presence of other state. In short, a certain degree of shared confidence amongst the states concerned is essential for regional cooperation for the development of river water arrangements.\textsuperscript{142}

Storage and watershed management in Indian part of Jammu and Kashmir would better regulate and even improve stream flows and reduce sediment carriage into Pakistan and generate large blocks of hydro-power that could feed an Indo-Pakistan grid to mutual benefit. Likewise, storage and diversions within Pakistan would enable India to harness certain limited but
yet untapped Ravi-Beas system supplies for (east) Punjab. Likewise, both need to resolve the Tulbul Navigation Project/Wular barrage, amicably.

The problems that have cropped up over the years after Indus Waters Treaty need to be taken up in the spirit of inevitable, necessary and beneficial mutual cooperation. At a time when globalisation has trampled the radical national wills base on jingoistic use of sovereignty. India and Pakistan cannot but think of cooperation—at last. The bond of natural physical boundary, shared waters, common heritage, history and culture and need to meet the aspirations and expectations of their respective teeming millions provide enough ground for cooperation.

Apart from the problems the Indus Treaty faces the threat of suspension or abrogation especially from India in the time of high tension between India and Pakistan. Many Indian strategists have argued that the presently on going problem of Pakistan supported border terrorism that has persistently been bleeding India for the last 15 years or so can be checked by stopping the flow of water from Indian rivers to Pakistan. Such an action by India has the potential to heavily damage the agriculture in Pakistan. It is further argued that India too must resort to arm-twisting to get Pakistan agree to stop cross border terrorism. But the abrogation/suspension of the Treaty is very difficult and has its own implications nationally and internationally. The Treaty has withstood the 1965 and 1971 war and weathered the ever-tense Indo-Pak relations and it will sustain the present stand off too. Being nuclear powers, it becomes all the more incumbent on them to resolve the problems mutually and optimally utilize the bounty of nature in the form of Indus and its tributaries.

References
1. Michel, A A: THE INDUS RIVER (Yale) 1967, p. 29. Also see Gulati, N D: INDUS WATERS TREATY (Bombay) p.18.
3. Ibid.
Historically, Kashmir was part of the Indian kingdoms. During the Ashokan period (273-232 BC), Buddhism was introduced; between the 9th and 12th centuries, the area was a center of Hindu culture. Muslim rule began in AD 1341 and initiated mass conversion to Islam. In 1846, the territory became the princely state of Jammu and Kashmir, belonging to British India. Since 1947 the Kashmir has been the object of several armed conflicts between India and Pakistan—India claiming the territory on historical and legal grounds, and Pakistan maintaining that the Muslim majority Kashmir rightfully belonged to Pakistan. The 1962 Chinese invasion of India resulted in the Chinese takeover of a northern, uninhabited section of Ladakh known as Aksai Chin. A “Line of Control”, agreed on in 1972, divided the Indian and Pakistani sections of Kashmir. Subsequent efforts to resolve the conflicting Indian, Pakistani, and Chinese territorial claims in Kashmir have met with little success. For details see Naqash Nasir A and G M Shah(ed): KASHMIR FROM CRISIS TO CRISIS (New Delhi) 1997; Singh, Jasjit (ed): PAKISTAN OCCUPIED KASHMIR UNDER JACKBOOT (New Delhi) 1995; Giyas Ud-Din, Peer: HISTORICAL DESTINY OF THE KASHMIR VALLEY (New Delhi) 1997; Akbar, M J: KASHMIR, Behind the Vale (New Delhi) 1991; Jagmohan: MY FROZEN TURBULENCE YEARS IN KASHMIR (New Delhi) 1991; Nanda, Ravi: KASHMIR AND INDO-PAK RELATIONS (New Delhi) 2001.

One of the arguments often used by Pakistani and some Western scholars in support of Kashmir joining Pakistan is that either the sources of the rivers that flow into Pakistan were in Kashmir or that their upper reaches are in Kashmir and that if Kashmir remained with India, a constant threat of tampering with the rivers would be hanging on Pakistan. Actually, however, the Indus and the Sutlej rise in Tibet. See F J Fowler, “The Indo-Pakistan Water Dispute”, YEARBOOK OF WORLD AFFAIRS, 1955, e.g. For details see Rahman, Mushtaqur: DIVIDED KASHMIR, Old Problems, New Opportunities for India, Pakistan, and the Kashmiri People (London) 1996, pp. 170-181.


A GAZETTEER OF AFGHANISTAN AND NEPAL (Calcutta) 1908 pp. 50-52.

THE STATESMAN’S YEARBOOK, 1985. From its source to Jalalabad, the river is of no value except for irrigation, which it also affords in the Frontier Province; from Jalalabad to Dobandi, it affords safe, and generally rapid, descent down stream by means of rafts of inflated skins. This mode of traveling is frequently resorted to, as it saves the distance, which may be traversed in twelve hours when the river is in flood. The boatmen of Lalpura, Jalalabad, and Kunar are a peculiar race, keeping much to them, and are known under the
generic title of nilabi. From Dobandi (or Nisatta) to Attock, the Kabul is navigable for boats of 40 or 50 tonnes.

15. Ibid.
18. Ibid.
20. BRITANNICA ATLAS (Chicago) 1984, p. 120.
22. Ibid.
23. Ibid., pp. 455-460.
25. For this see BRITANNICA ATLAS, op. cit., and ENCYCLOPAEDIA BRITANNICA, vol. 9, pp. 492-493.
27. BRITANNICA ATLAS, op. cit.
28. Ibid.
29. ENCYCLOPAEDIA BRITANNICA, vol. 9, op. cit.
30. Ibid.
31. Ibid.
32. Spate, O H K: INDIA AND PAKISTAN, op. cit., pp. 396-397. Also see RAND McNALLY WORLD ENCYCLOPAEDIA OF RIVERS.
33. Ibid.
34. Rao, K L: INDIA’S WATER WEALTH, op. cit., p. 60.
38. Ibid. Also see Paper on India in GUIDEBOOK TO WATER RESOURCES, USE AND MANAGEMENT IN ASIA AND THE PACIFIC, op. cit., pp. 81-82.
39. Ibid.
46. Ibid.
49. Ibid.
50. Ibid.
53. Ibid.
55. Ibid. Leonard Mosley, a veteran Fleet Street correspondent, has stated that Radcliffe approached Mohammad Ali Jinnah and Jawaharlal Nehru seeking an agreement by both “that the Punjab Water System should be a joint venture run by both the countries, has stated it”. For detail see Mosley, Leonard: THE LAST DAYS OF BRITISH RAJ (New York) 1962, pp. 198-199.
58. KEESING’S CONTEMPORARY ARCHIVES, September 24-October 1 1960, pp. 17655-17658.
59. Ibid.
60. Ibid.
63. Ibid.
64. Gulati, N D: INDUS WATERS TREATY, op. cit., p. 59.
70. Ibid.
73. Ibid.
74. KEESING’S CONTEMPORARY ARCHIVES, op. cit., September 24-October 1, 1960, pp.17655-17657.
75. Ibid.
77. David E. Lilienthal was formerly Chairman of the Tennessee Valley Authority and of Atomic Energy Commission, USA.
79. Lilienthal, D E, “Another Korea in Making?” COLLIER WEEKLY (New York) 4 August 1951
80. Ibid.
81. Ibid.
84. Ibid.
86. Ibid., p.109.
87. The Hindu, 24 June 1954.
88. “KASHMIR”- Meetings and Correspondence between the Prime Ministers of India and Pakistan (July 1953-October 1954); White Paper, Ministry of External Affairs, Government of India.
90. Ibid.
91. The Hindu, 2 August 1957.
92. Ibid.

93. The Dawn, 10 August 1957.

94. The Times of India, 23 September 1959.

95. Ibid, 10 October 1959.


98. The Times of India, 8 April 1960.


100. Ibid.

101. KEESING'S CONTEMPORARY ARCHIVES, September 24-October 1, 1960, p. 17658.


103. Ibid.

104. KEESING'S CONTEMPORARY ARCHIVES, September 24-October 1, 1960, pp. 17655-17658.

105. One of the objections in Pakistan against the World Bank Proposal of 1954 was that it required waters of the Indus to be utilized in Punjab, for purposes of replacement, whereas Sindh regarded the Indus as meant mainly for utilization in Sindh.

Even after merger, Sindh interests continued to be considered distinct from Punjab interests. Even in mid 1960s, “... For operating purposes, the Pakistan portion of the Indus Basin was divided into two zones: the Jhelum-Chenab Zone, including the five linked canals... the post-Partition Links (M-R, B-S, and BRBD), the CDBC, and the upper Sutlej Valley Canals (Dipalpur and the Suleimanke system); and the Indus Zone, which included the all the rest....” (Alloy A Michel: THE INDUS RIVERS (London) 1967, p. 271).


108. LINK, September 25, 1960, 9-12. It may be added that the upstream riparian also has to face some political difficulties; some of the criticism in India against the Treaty was due to the fact that it was not easy to justify to the politicians the restraints inherent, for the upstream riparian, in any settlement of a dispute on river waters; a strong Prime minister in India helped to keep the criticism within bounds.

109. Ibid.

110. The Round Table, A quarterly review of British Commonwealth Affairs; No. 192, September 1958, p. 364.


113. For detail see Nayar, Baldev Raj: AMERICAN GEOPOLITICS AND INDIA (Delhi) 1976.

114. Some Pakistani leaders thought that India wanted to grab Pakistan or at least to make Pakistan its satellite. As the former Pakistan President Mohammed Ayub Khan wrote:

"From the day of Independence, Pakistan was involved in a bitter and prolonged struggle for her very existence and survival... the cause of our major problems is India’s inability to reconcile herself to our existence as a sovereign independent state. By 1954 Pakistan was compelled to align herself with the West in the interest of her security" (Mohammed Ayub Khan: FRIENDS NOT MASTERS, A Political Autobiography, pp. 115-116.)

115. Nehru, Jawaharlal: INDIA’S FOREIGN POLICY, p. 94


119. KEESING’S CONTEMPORARY ARCHIVES, September 24-October 1 1960, p. 17658.

120. Ibid.


128. The Organiser, 26 September 1960.

129. The Times of India (editorial), 20 September 1960.


131. The Hindustan Times, 1 December 1960.

132. Ibid.


136. The percentage of increase in population in the Indian part of the Indus basin is more than 20 percent. (For details see Bawa, R S and P S Raikhy (ed): PUNJAB ECONOMY, Emergency Issues (Amritsar) 2000, p. 331. In the case of Pakistan the total population in 1965 was 52.6 million that increased to 129.7 million in 1995. (Zaidi, Akbar S: ISSUES IN PAKISTAN’S ECONOMY (Karachi) 1999, p. 365.

137. In 1960 the economy of Indian part of Indus basin was mainly agrarian. Similarly, at the time of independence, Pakistan’s economy was essentially agrarian and there were only a handful of manufacturing units in the country. However, the growth of manufacturing output has been impressive at an average annual rate of 7.4 per cent over 1949-50 to 1994-95 period. Starting from a low industrial base, the manufacturing output registered growth rate of 7.7 per cent in the 1950s. The growth rate accelerated further to 9.9 percent in the 1960s but fell to 4.8 per cent in the 1970s. The growth rate of manufacturing output, however, increased to 8.2 per cent during 1980s but fell to 5.5 per cent in the 1990s. (Khan, Shahrukh Rafi: FIFTY YEARS OF PAKISTAN’S ECONOMY (Karachi) 1999, p. 160.


141. The major rivers of India are almost all inter-state rivers. With increasing demand for water for all sectors, inter-state disputes do arise about the share of water. Efforts are made to resolve disputes by negotiations amongst the states concerned with the assistance of Union government. Adjudication through Tribunals is also resorted to when warranted. So far following tribunal have been appointed to resolve inter-state water disputes; (1) Godavari Water Disputes Tribunal; (2) Krishna Waters disputes Tribunal; (3) Narmada Waters Disputes Tribunal; (4) Cauvery Waters Disputes Tribunal and (5) Ravi-Beas waters disputes Tribunal. (INDIA – 2000, p.437.) Similarly in Pakistan there is controversy amongst N.W. F. P., Punjab and Sindh regarding construction of Kalabagh Dam Project on Indus River. (For details see Pakistan’s official website)


143. The Times of India, 8 February 1990.

144. A dispute that has antagonized India and Pakistan is called Tulbul Navigation Project by India; Pakistan calls it Wular barrage. India’s decision to construct the barrage on the Jhelum River has been necessitated for the navigation purpose. However, Pakistan has contested the issue in 1985-86 on the argument that it is work not of navigation control but of storage that violates the Indus
The Indus Waters Treaty of 1960 assigns the Jhelum River waters to Pakistan, disallowing storage of water for “consumptive use”. India has contested the issue on the ground that its planned project is only for “non-consumptive use”. India suspended work on the project pending a settlement.

The Permanent Indus Commission took up the issue. The commission could not succeed and in 1987 referred the matter to the two governments for negotiations. Despite several rounds of talks, the deadlock continues. India is not enthusiastic about the matter to be referred to a neutral expert for resolution. It favours bilateral solution to the problem. The problem is part technical and part political. If two sides have a desire to settle the issue, it can be done with minor adjustments in respective stands. Pakistan must be assured by India that it has no motive to violate the Indus Waters Treaty; and similarly, India’s legitimate need for constructing the barrage for navigation must be understood by Pakistan.


India should not, and cannot, go back on the Indus Waters Treaty that it concluded with Pakistan in 1960. Any talk of abrogating or withdrawing from it amounts to chauvinism of the ill-informed kind. For detailed discussion see A.G.Noorani, “A Treaty to keep”, Frontline 26 April 2002.