

Chapter 7: Lifeline

Pakistan's obsession with water in the secret diplomacy must be understood in the context of tremendous importance of the quietly flowing rivers of the Indus Basin for the survival of Pakistan and parts of Northern India. For centuries, the Indus River Basin constituted a unified geography spreading over almost 1.2 sq km in today's Tibet, India, Pakistan and Afghanistan. In 1960, it was divided under the Indus Waters Treaty. Accordingly, the three western rivers Indus, Jhelum and Chenab were awarded to Pakistan and the three eastern rivers Ravi, Beas and Sutlej to India. This division provided Pakistan with 56 per cent of the catchment area and India with 31 per cent. The authors of the Treaty then hoped that the division of the Indus Water Basin would eventually lead to the unity of people in Pakistan and India. Fifty years later, they seem to be proved wrong. In fact, the concern over the distribution of the Indus catchment area raises a basic question: whether short term divisive solutions can be sustained in the long run, or whether they can actually worsen the situation.

Perhaps water would not have been a central issue had it been utilised efficiently over the last half century. Unfortunately, that has not been the case.

Northern India

India's overall per capita water availability has declined from over 5000 cubic metres in 1950 to 1800 cubic metres in 2005. India may reach the threshold level of 1000 cubic metres per capita in 2025. However, some parts of the country are already facing water scarcity conditions below the threshold level.

The northern states of Punjab and Haryana, which form part of the Indus River Basin along with Jammu & Kashmir and Himachal Pradesh, are fearful of a substantial decline in water availability in the next 5-10 years. The underground water levels have been falling at the rate of 5 per cent per year in Punjab and Haryana. The two states are in dispute over the sharing of the Ravi and Beas waters. Punjab has 10 million acres of cultivable land and receives 12 MAF of water, while Haryana with 8 million acres of cultivable land is entitled to 14.5 MAF of water. Punjab has therefore refused to complete the construction of the Yamuna-Sutlej Link Canal. In 2004 the Punjab assembly passed a resolution annulling all its water treaties with its neighbouring states. The ruling as well as the opposition parties in the state supported the resolution. The relations between Punjab and Haryana area expected to deteriorate as overall water availability in the northern states of India declines by 2010.

Pakistan

Pakistan's per capita availability of water has declined from 5600 cubic metres in 1947 to 1200 cubic metres in 2005, fast approaching the threshold level of 1000 cubic metres by 2007.

The decline in water availability has particularly meant disaster for irrigation. In Pakistan, over 80 per cent of the cropland is irrigated. The country has the world's largest contiguous irrigation network. The rivers of the Indus Basin provide 60 per cent of the water utilised for irrigation, while groundwater accounts for the rest. The inflow of water for irrigation has declined from 140 MAF in the 1980s to an average of 100 MAF in 2005. It is feared that it will decline further as the flows in the three rivers are reducing at the rate of 6.6 per cent per year. While Pakistan's irrigation network is vast, it is managed in an extremely inefficient manner. Seepage from irrigation canals has resulted in water logging in low-lying areas, disturbing the composition of salts in the soil. It has reduced the delivery efficiency of the canal system to hardly 40 per cent.

The Indus River System carries about 43,500 hectare metres of silt every year. About 40 per cent of the silt load settles before reaching the Indus mouth and erodes the storage capacity of the three main dams Tarbela, Mangla and Chashma. In particular, the Tarbela dam is losing storage capacity of 100,000 cusecs each year. At this rate, it will be difficult to support cotton sowing and wheat maturity by 2010, even though the designed life span of this dam is until 2030.

The ground water resources are also fast depleting. As compared to 3.34 MAF in 1959, ground water pumping is estimated to reach 55 MAF by 2009. As a result of over-pumping, about 70 per cent of Pakistan's half-a-million tube

wells produce hard or brackish water.

If the network of canals and tubewells continue to provide gradually reducing quantities of fresh water, Pakistan will face serious crisis in its agricultural output by 2010. Already the country faces a shortfall in foodgrain availability of about 4 million tonnes per year. It is feared that this will treble by the end of the decade. Besides, production of cotton, which is the most important source of foreign exchange revenue, will be severely affected. Most important, the unity of the country will be undermined.

Crises in Pakistan's Provinces

While all of Pakistan is affected by declining supply of water, the impact on Sindh and Balochistan is the worst. Sindh, almost completely depends on canal irrigation, as groundwater sources have become unfit for use. Salinity and waterlogging has affected 88.8 per cent of Sindh's agricultural land.

Sindh has had to bear the maximum brunt of the large and inefficient irrigation network. The diversion of water upstream has resulted in the decline of water downstream to Sindh. As a result, discharge of freshwater into the sea has come down, thus causing intrusion of sea waters into the mainland. Sea intrusion has already destroyed 1.5 million acres of farmland in the two coastal districts of Badin and Thatta. It has resulted in the demise of three commercial towns Ghorabhari, Shah Bandar and Ketti Bandar and displacement of a quarter million people. The cumulative economic loss is estimated to be close to 2 per cent of GDP.

With drought conditions prevailing since the last few years, between 2000 and 2005, Sindh's share in irrigation water was cut by an average of 25-40 per cent per year. During the same period, the share of Punjab was also cut. Like Sindh, Punjab also suffers from waterlogging and salinity, though of a lower intensity. The groundwater level in Lahore area has been declining at the rate of 30 cm per year. However, Punjab has exclusive rights to the Mangla Dam, whereas Sindh has to share its access to Tarbela dam with Punjab as well as the other provinces.

Punjab has 31 small dams that provide irrigation facilities to about 36,000 acres of land. Punjab has lately been undertaking projects to develop and integrate its irrigation system for securing water availability. They have envisaged a five-year project worth Rs.20 billion to revamp the irrigation system in the province to overcome system losses. Most important, a scheme to divert the Chenab to join it with the Ravi and Sutlej is on the anvil. To improve the water conditions in rainfed areas, the government intends to build three small dams in Pothohar, DG Khan and Cholistan areas. A drinking water pipeline to Cholistan is nearing completion. Also, plans were afoot to build 60 mini dams, 100 link canals and 200 village reservoirs in the Pothohar region. Over and above the initiatives taken by the provincial government, the federal government is also assisting to improve water availability in the province. The upcoming contentious Greater Thal canal project would help irrigate the southern parts of Punjab.

Punjab and Sindh are at loggerheads over deciding a formula to distribute shortages in water flows. Sindh demands the implementation of the Water Accord of 1991, whereas Punjab insists on a formula worked out in 1994. The politicians in Punjab and Sindh launch a war of words every year at the end of winter regarding water. This altercation reaches its peak at the time of Kharif sowing in May-June and then subsides with the onset of rains. This is because the water flows in the Chenab and Indus is relatively low during early Kharif sowing (April-June), while that in the Jhelum is relatively high during the same period. With Punjab's exclusive rights on the Mangla, it is able to draw sufficient waters. Sindh is left dry and to the mercy of the rain gods.

The conflict between Sindh and Punjab is expected to aggravate on account of the proposal to construct the Kalabagh dam and Thal canal. Punjab supports Kalabagh dam as it is expected to provide additional storage to meet the existing water shortages during the early Kharif season of April-June. It is also expected to produce 3400 MW of electricity, and control high floods in the Indus. Sindh believes that Kalabagh will leave no surplus water for areas below Kotri and render the province into a desert. Sea water intrusion will further increase. NWFP is also opposed to the dam, but seems satisfied by the proposal to reduce its height by 10 metres.

Sindh is also opposing the construction of the Thal canal. The canal is designed to provide additional 1.9 MAF water to Punjab from the Tarbela reservoir. The project covers four districts of Punjab Bhakker, Layyah, Khushab

and Jhang. Interestingly, this is precisely the area where there is concentration of jihadis and the private landholdings of senior military officials. The Board of Revenue of Punjab revealed in June 2003 that 112 military officers including General Pervez Musharraf had been allotted land at Cholistan at nominal rates. The Thal canal is required to build small dams to irrigate Cholistan for the benefit of the military officials. Some analysts believe that the Thal canal will become operation in any case. However, the construction of Kalabagh dam may prove to be difficult due to the fear of bloodshed in Sindh and even Balochistan.

There is also a proposal to construct Basha and Skardu dams in the Gilgit-Baltistan region. However, Sindh and Balochistan as well as many sections of society in the NWFP oppose any proposal for new dam projects. As a result, Pakistan will have to move further upstream in search of storage sites. Kashmir, under Pakistan's jurisdiction has facilities for only small dams. The development of large dams can only be possible in the Chenab catchment area in the Indian side of Jammu & Kashmir.

Thus, in order to prevent a conflict between Punjab and Sindh, and to prevent a possible secession of Sindh and Balochistan, Pakistan needs physical control over the Chenab catchment region in Jammu & Kashmir in India. It needs sites to build dams, to store, divert and regulate water flows. It also needs additional fertile land. Thus, Jammu & Kashmir is a source of Pakistan's water and food security. It is a real estate dispute for strategic resources.

To the outside world, it is projected that Pakistan is supporting a struggle for self-determination for the people of Kashmir. To the leaders of Pakistan, Syed Salahuddin, chairman of the United Jihad Council, often assures that the Kashmir youth are fighting a war to help Pakistan secure its lifeline.

STORAGE AND RESERVOIRS IN PAKISTAN

Table 1: Existing Storage Reservoirs in Pakistan

Dam (Year)	River	Live Storage (MAF)
Tarbela (1976)	Indus	9.69
Mangla (1966)	Jhelum	5.34
Chashma (1971)	Indus	0.61
Warsak (1960)	Kabul	0.04
Baran (1962)	Kurram	0.09
Hub (1983)	Hub	0.76
Khanpur (1984)	Haro	0.09
Tanda (1965)	Kohat Toi	0.06
Rawal (1962)	Kurang	0.04
Simly (1972)	Soan	0.02
BKD Khan (1900)	Pishin	0.04
Hamal Lake	-	0.08
Manchar Lake	Indus	0.75
Kinjhar Lake	Indus	0.32
Chotiari Lake	Indus	0.78
<i>Total Storage: 18.71 MAF</i>		

Source: Pakistan Development Forum, *Presentation on Planning for Water Resources*, by Dr. Shahid Amjad Chaudhry, Deputy Chairman, Planning Commission, Government of Pakistan, May 2003

Table 2: Reservoir Sedimentation in Pakistan

Reservoir	Original Storage Capacity	Storage Loss by 2001	Storage Loss by 2010
Tarbela	11.616	2.834 (24%)	3.951 (34%)
Mangla	5.882	1.059 (18%)	1.510 (26%)
Chashma	0.870	0.373 (43%)	0.481 (55%)
<i>Total</i>	18.368	4.266 (23%)	5.942 (32%)

Source: Pakistan Development Forum, *Presentation on Planning for Water Resources*, by Dr. Shahid Amjad Chaudhry, Deputy Chairman, Planning Commission, Government of Pakistan, May 2003

Table 3: On-going Water Storage and Canal Projects in Pakistan

Name of Project	Storage (MAF)	Cost (Rs. Billion)	Completion Date
Mangla Dam Raising	2.90	62.5	June 2007
Gomal Zam Dam	1.14	12.8	September 2006
Mirani Dam	0.30	5.9	June 2006
Kurram Tangi Dam	1.20	9.3	June 2009
Sabakzai Dam	0.02	1.0	June 2005
Satpara Dam	0.08	2.1	March 2006
Greater Thal Canal		30.5	June 2007
Kachhi Canal		32.4	June 2007
Rainee Canal		17.9	December 2007
<i>Total increment in next 5 years</i>	5.64	174.5	
Basha Dam	7.10		Feasibility in progress
Kalabagh Dam	6.10		Feasibility completed
Skardu Dam	15.52		Pre-Feasibility Study
Akhori Dam	3.60		Feasibility in progress
Katzarah Dam	35.00		Reconnaissance Study
<i>Total increment in future</i>	32.32*		

Note: Total storage capacity excludes the Katzarah Dam project

Source: Website of the Parliamentary Committee on Water Resources website,
<http://www.pakwaters.gov.pk>