Chapter 9
The Indus Basin: The Potential for Basin-Wide Management Between China and Its Himalayan Neighbours India and Pakistan

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Abstract Despite the presence of huge water resources, several factors are contributing to water security issues in Asia in general and southern Asia in particular. From this region flow some of the major rivers in Asia, such as Yangtze, Yellow, Indus, Yarlung Zangbo/Brahmaputra, Salween, Mekong, Irrawaddy and others. These rivers drain several million square kilometres and have become lifelines for the food security of billions, apart from transporting goods and services and for industrial development. Countries such as China, India and Pakistan sit on enormous water reserves in this part of the world, and these are in the recent period triggering securitisation of water-related issues due to a number of reasons. China has the fourth largest freshwater reserves in the world. However, due to increasing demands over water use, such resources are being increasingly and extensively exploited for economic purposes. These issues have triggered wide debate among officials, lawmakers, scholars, environmentalists and others. In order to address water scarcity issues, China recently launched several initiatives and programmes such as the South-to-North Water Diversion Project (SNWDP), construction of either water diversion dams or hydropower dams and the like. It is argued in this chapter that while in the overall water discourse of China, the Indus River takes a marginal seat in comparison with other major rivers, China has followed a two-pronged approach, namely, stop-gap understandings on water sharing or, more accurately, water measuring with the immediate lower riparian states, including India, while actively exploring cooperative efforts with the lowest riparian state, Pakistan, in regard to dam construction and hydroelectricity generation, including even eventual protection of these facilities with China's paramilitary/military forces in the longer run. Thus, cooperative efforts do exist in the Indus basin between China and Pakistan, while in the case of China and India, both cooperative and competitive elements are forthcoming.

Keywords Indus basin • Water sharing • China-Pakistan cooperation • China-India competition

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9.1 China's River Systems

China is endowed with rich water resources originating mainly from the western portion of the country. It has an estimated 50,000 rivers of small, medium and large systems (China's Ministry of Water Resources website). The following table provides a list of main rivers in China.

China's Rivers

Name	Length (km)		Catchment area (km^2)		Average annual surface runoff (billion m^3)
	Total	In China	Total	In China	
Yangtze River	6,300		1,808,500		975.5
Yellow River	5,464		752,000		59.2
Pearl River	2,214		454,000	44.2	336
Haihe River	1,090		263,400		22.8
Huaihe River	1,000		269,000		61.1
			187,000		44.3
Songhuajiang River	2,309		556,800		74.2
Liaohe River	1,345		219,000		14.8
Heilongjiang River	4,440		1,855,000	89.11	355
Lancangjiang River	4,500	1,612	810,000	15.4	74
Erqisi River	4,248	633	1,643,000	5.73	10
Nujiang River	3,200	1,659	325,000	13.78	68.9
Yarlung Zangbo River	2,900 (916 in India)	2,057	935,000	24.0	165.4
Tarim River	2,300	2,046	198,000	19.4	20.5
Yili River	1,500	601	131,000	6.16	17
Yuanjiang River	1,183	565	158,000	7.63	18.3
Wusuli River	890		187,000	5.67	45.
Yalujiang River	795		63,800	3.25	29.1
Tumenjiang River	520		300,000	2.2	7.52

Source: China's Ministry of Water Resources and Li Zhifei (2015: 73)

In the northwest and southwest regions of China, specifically in Tibet, are located a number of important river systems (Zhifei 2015, 66). The Yarlung Zangbo and Nujiang rivers have a catchment area of 624,000 km^2 in China. With nearly 2,900 km of journey and dropping from 13,000 ft at its origins to about 5,000 ft at Namcha Barwa at the disputed border between Tibet and Arunachal Pradesh, the Yarlung Zangbo/Brahmaputra feeds more than 100 million people in Tibet, India and Bangladesh (Sud 2008). In 2006, China's first national water resources survey concluded that China has a potential of 500 million kW of hydroelectricity generation capacity of which only 117 million kW (24 %) was realised by 2005. The report

suggested that greater unused potential capacity is exhibited in water resources of south-western China in the Jinsha, Yarlung Zangbo, Hongshui and Lancang rivers (National Development and Reform Commission 2006).

These river systems sustain a huge number of people. They are also termed as "sorrows" for the people for the fury they unleash in the form of periodic floods and other natural disasters. Taming these rivers reached mythical proportions in the history of China, memory of which still lingers in contemporary political debates (Hong and Shengqi 1998). While Generalissimo Chiang Kai-shek utilised water as a potent weapon to unleash damage on the invading Japanese forces in World War II, Mao Zedong and others of the "first generation" of communist leadership controlled the rivers through extensive dam construction activities beginning from the 1950s. Subsequent generations of leadership in China furthered this process, although in the latest phase, certain debates were allowed to come out into the public sphere, partly due to the aggravating environmental situation. Among all these "generations", securitisation of water issues has been a strong phenomenon with "mainstream" views contending that the river waters need to be tamed further through different projects.

Three main strands are visible in current Chinese assessments of water security issues. One, there is a need to exploit water resources of the country for economic development, especially in view of Deng Xiaoping's motive of getting rich quickly. A second and recent strand, in the light of the devastating environmental fallout of China's gigantic hydroelectric, storage reservoir and canal projects, is that there should be "coordinated" development between taming rivers and ecological protection. Nevertheless, the concern is again mainly on "sustainable" economic development (Zhang 2004). A third – connected to the international dimension – relates to China's having entered into a memorandum of understanding (MoU) with a number of lower riparian states focused on hydrological data exchange without any long-term binding provisions impacting China (Zhifei 2015).[1]

[1] In August 2002, China revised the 1988 water-related legislation into a law. It stated that the state owns the water resources of the country. In the supplementary provisions (article 78), this law suggested that the international understanding of China on water issues supersedes the domestic law (Water Law of the PRC 2002). As a part of border dispute resolution with its neighbours, China has also considered the transboundary river waters, but many of these are in the domain of management issues. For instance, with Bangladesh, an MoU was signed for hydrological information in 2008; with India in 2005, 2008, 2010 and 2015 for hydrological information; water quality on Irtysh River in 2011; joint diversion on Horgos in 2010; exchange of hydrological information and disaster prevention with Kazakhstan; commercial navigation in 2000, transportation in 1994 and law enforcement on Mekong in 2011; management with Russia in 1962, 1988, 1994 and 2010; and so on (Chen et al. 2013; Zhifei 2015, chapters 3 and 5; China International Water Law).

9.2 South-to-North Water Diversion Project (SNWDP)

In order to utilise its water resources, China has undertaken a number of initiatives, including the recently launched South-to-North Water Diversion Project (SNWDP) [*Nanshui beidiao*] which was proposed in 1952 by Mao Zedong. He reportedly stated: "The south has a lot of water, the north little. If possible, it is ok to lend a little water" (Mao cited in Nickum). After half a century of debate on the project, the State Council finally decided to go ahead with the construction of the project in 2002 (Liu 1998). In December 2002, work began on the eastern route to divert waters to Shandong province. The central route work began in December 2003 and was completed by 2010. It supplies waters to Henan, Hebei, Beijing and Tianjin. The SNWDP is projected to divert 44.8 billion cubic metres of water annually from the Yangtze River through the three routes by 2050. The project also plans to link up four major river systems of China, namely, the Yellow, Yangtze, Huaihe and Haihe rivers. The following table provides information on the SNWDP:

Route	Eventual diverted volume	Diversion extent	Timeline	Estimated costs		
				Stage I	Stage II	Stage III
				2000–2010	2010–2020	2020–2050
Eastern route	14.8 billion m^3/year	1,156 km	December 2002–2006	17.9 billion yuan	11.3 billion yuan	–
Central route	13.0 billion m^3/year	1,267 km	December 2003–2008	23.4 billion yuan	31.5 billion yuan	–
Western route	17.0 billion m^3/year	1,300 km	2010–2050	–	0–20 billion yuan	230–250 billion
Total	44.8 billion m^3/year	3,723 km	–	41.3 billion yuan	42.8–62.8 billion yuan	230–250 billion yuan

Source: "South-to-North Water Diversion Project, China" accessed from http://www.water-technology.net/projects/south_north/ and James E. Nickum

The first two routes were expected to cost about $26 billion, with the middle route costing about $18 billion. The State Council earmarked $37.2 billion for phase I of the project in eastern and middle routes. (Xinhua 2008) By 2008, sections of the project in Shandong and Jiangsu provinces along the eastern route had been completed, apart from the 210 km section linking Shijiazhuang with Beijing (AFP 2008). In December 2007, China began digging a tunnel 7.8 km in length beneath the Yellow River in Shandong province to divert 442 million cubic metres of water from the Yangtze to the Yellow River. This was expected to cost about $92.1 million (Xinhua, December 28, 2007). By the end of 2015, China's Ministry of Water Resources estimated the cost of the completed project at 500 billion yuan ($82 billion) (China's Ministry of Water Resources 2015).

The western route is the largest, most difficult and costliest of all the routes. Expected to cost about $36 billion, this route is to divert 17 billion cubic metres of water to the Yellow River by 2050. This route has generated more controversy than the earlier two because of the large scale of diversion of the waters as well as the

potential international dimension of the project. That is, lower riparian states such as India and Bangladesh have concerns about the proposed diversion of waters as well as about the construction of a hydroelectric dam or dams anywhere on the Brahmaputra, but especially any contemplated near the river's so-called Great Bend. Such plans were initially denied by the Water Resources Minister Wang Shucheng and by a foreign ministry spokesman (Reuters 2006). Nevertheless, in 2003 it was reported that Chinese scientists had conducted a feasibility study for a hydroelectric project on the upper reaches of the Brahmaputra mainstream (Hodum 2007). The project – the 510 MW Zangmu hydropower dam – began in 2008 and became operational in 2015.

While China has utilised these river systems extensively for agricultural, hydroelectrical or transport purposes, the lower riparian states are also heavily dependent on these waters for similar purposes. This issue is lately coming to the fore, some even suggesting the potential for conflict that this issue could generate in the twenty-first century between China and these states (Chellaney 2011; Hodum 2007). Although China has been reluctant to acknowledge the "transboundary" nature of these river systems, it is compelled to come to an understanding with several lower riparian states in the light of increasing economic interdependencies. Rivers flowing from China through Kazakhstan, India, Pakistan, Bangladesh, Myanmar and the Indochina region are increasingly giving rise to contentious issues owing to their significant impact on the ecosystem and livelihood patterns of hundreds of millions of people downstream. If this transboundary issue is not addressed in an amicable manner, there are several chances for conflict to emerge in regard to river water-sharing arrangements (Economy 2004, 2008; Menniken 2007; Zhifei 2015: 136).

9.3 The Indus Basin

The focus of the above discussion is mainly on China's major rivers, including the recent controversy over the Yarlung Zangbo/Brahmaputra River, with marginal focus on the Indus. The Indus River originates in Tibet at Lake Manasarovar in the Mount Kailash region and flows westwards through India and Pakistan, with several tributaries (including the Kabul River from Afghanistan) and small rivulets joining on the way, before it enters the Arabian Sea (Central Tibetan Administration 2000). In the course of its run, the Indus has shaped an entire civilisation in its tracks – the Indus Valley Civilisation (Mountjoy 2005). Alexander's expeditions in the region were to have a lasting impact on subsequent ages (Huang 2010).

The Indus River basin is over one million square kilometres in size with a major portion of the river flowing in Pakistan (47 %), the rest in India (39 %), China (10 %) and Afghanistan (6.6 %) (the Indus Waters Treaty 1960). Due to the unresolved territorial dispute between China and India, the extent of the Indus River basin is contested. The 1960 Indus Waters Treaty between India and Pakistan regulated water usage between the two; however, contention over this usage has in recent years led to some acrimonious disputes (Zhong et al. 2011; Hu et al. 2010; Chengdu

Business Report 2010). There are also new factors that have contributed to tensions, including population growth, rapid urbanisation and industrialisation, environmental degradation due to deforestation and inefficient use of resources (Yunhui et al. 2011).

According to a United Nations report, the annual flow from China to India in the Indus basin is 181.62 km^3 and within India is 50.86 km^3, resulting in a flow from India to Pakistan in this part of 232.48 km^3, of which 170.27 km^3 are reserved for Pakistan and 62.21 km^3 are available for India (United Nations Food and Agriculture Organization; Wolf et al. 1999). No treaty exists between China and India on sharing water resources, although some Chinese have argued that the Indus Waters Treaty could be the basis for such treaties with the Southeast Asian countries (Bai 2012). The main threats to the Indus River, according to a *People's Daily* commentary comparing ten major rivers, are climate change, overutilisation of water, contamination of water and dam construction activities (*People's Daily* 2007).

The Indus River

River/tributary	Length (km)	Catchment area (km^2)	Remarks
Indus	2,900 (1,114 km in India)	372,000	Originates near Mount Kailash
Chip Chap River in Aksai Chin/Karakoram ranges		4,410	Disputed between India and China. Enters the Shyok River and then Indus
Sutlej River			Originates near Rakshastal in Tibet and enters at Shipki La in India
Galwan in Aksai Chin			Disputed between India and China. Joins the Shyok River and then Indus
Shiquanhe River			

Tributaries of the Indus River

River	River length (km)	Drainage area (10,000 sq km)	Origins	River flows
Jhelum	774	6.3 5	Kashmir, India	Chenab
Chenab	1,200	13. 80 (incl Jhelum)	India	Dry
Ravi	725	1.16	India	Chenab
Beas	470		India	Sutlej
Sutlej	1,450	39.5	Tibet, China	–
Shyok	550		Tibet, China	Dry
Kabul	700	8.5	Afghanistan	Dry
Gumal	240		Pakistan	Dry

Source: Zhong Huaping et al. (2011: 68)

Water Resources Characteristics of the Indus River Basin

Country	Length (km)	Basin area (10,000 km²)	%	Runoff BCM	%	Main rivers involved
India	450	38.16	33.5	1,435	69	Indus and its five east tributaries
Pakistan	2,300	59.77	52.5	395	19	Indus and two on the west side, four tributaries on the east side
Afghanistan	–	7.21	6.3	–	–	Two tributaries on the west side
China	430	8.74	7.7	250	12	Sutlej and the east side of the tributary
Total	3,180	113.88	100	2,080	100	–

Source: Hu Wenjun et al. (2010: 1919)

China and Pakistan have entered into cooperative agreements in the last decade or so to utilise water resources for agricultural purposes and for generating hydro-electricity. A number of contracts were signed by both to construct such projects as the following table indicates. A number of Chinese engineers and workers have been operating at these projects (*The Nation* August 2, 2010).

Indus Water Utilisation and Developments

Dam	Details	China's role
Bunji Dam in Gilgit-Baltistan	190 m high; 7,100 MW capacity	China Three Gorges Project Corporation signed an MoU in August 2009 for this largest hydropower project in Pakistan
Chashma Barrage in 1971	11 m high; 184 MW – operational	56 km downstream of Chashma Barrage is the Jinnah Hydropower Project being built with Chinese company Dongfang Electric Corporation at $128 million
Allai Khwar river project in Besham District from 2012	61 m high; 560 GWh/year	Guangdong Yuantian Engineering Co. involved in the construction
Khan Khwar at Besham	46 m high; 306 GWh/year	China's Dongfang and Sinohydro involved
Gomal Zam	17 MW	China National Water Resources and Hydropower Engineering, Harbin Power Engineering Co. and Synohydro involved in the construction
Jabban power station, Malakand	22 mw	Chaozhou Huineng Electric Machinery, Zhejiang Jinlun Electromechanic Co. and Sanbian Sci-Tech Co.
Malakand-III in 2008		Harbin Electric Co. involved
Mangla Dam	146 m; 1,000 MW	China International Water & Electric Corp. involved in the raising of the height of the dam since 2004
Tarbela Dam in 1976	148 m high; 3,478 MW	China's Sinohydro is involved since 2013 in the Tarbela-4 Project for 1,410 MW at a cost of $928 million

Source: Pakistan Water and Power Development Authority and others

With the recent launch of the Silk Road initiative in 2013 and the visit of President Xi Jinping to Islamabad in April 2015, when China announced a massive $46 billion plan for investments in Pakistan, attention is now focused on hydroelectric projects across several rivers. Indeed, more than half of the $46 billion is to be spent on energy projects, specifically hydroelectric projects, in addition to infrastructure projects. Most of these will impact the disputed area of Kashmir. Hence, China appears to be upping the ante in its bilateral relations with India. Indeed, as is evident in the table above, China has been investing in infrastructure projects for some time in Pakistan-controlled portions of the disputed territory of Kashmir to the chagrin of New Delhi. Some of the emerging details of these investments appearing in the local press include the following:

- Diamer-Bhasha Dam on the Indus in the disputed Gilgit-Baltistan area for $12.6 billion – contract awarded to China's Three Gorges Project Corporation (Haider and Pearson 2015).
- CGGC-CMEC Consortium China is involved in the $1.5 billion Neelum-Jhelum Hydroelectric Power Project in Pakistan Occupied Kashmir which aims to divert the water of the Neelum (Kishanganga) River through a tunnel into the Jhelum River.
- Dasu Hydroelectric Project for $7.8 billion.
- Phandar Hydroelectric Project for $70 million.
- Bashu Hydroelectric Project for $40.01 million.
- Harpo Hydroelectric Project for $44.608 million.
- Yulbo Hydroelectric Project for $6 billion.
- China International Water & Electric Corporation has raised the level of the Mangla Dam in southern Mirpur district of Pakistan Occupied Kashmir by about 60 ft.
- China International Water & Electric Corporation for $2.1 billion Kohala Power Project at Muzaffarabad in Pakistan Occupied Kashmir.

Since the late 1980s, China's companies have begun to cooperate with Pakistan's river water projects. The Chinese Ministry of Water Resources' 13th Engineering Bureau, Guangxi International Economic and Technical Cooperation Company, the China Harbour Engineering Company, Three Gorges Project Corporation, Dongfang Electric Corporation, Guangdong Yuantian Engineering Co., Chaozhou Huineng Electric Machinery, Zhejiang Jinlun Electromechanic Co., Sanbian Sci-Tech Company and others have made major inroads into Pakistan's hydro projects. Most of these are state-owned enterprises and thus provide political leverage to China in the "all-weather" friendship between the two countries. However, China's entry into the Pakistan-controlled river basins is not without its problems. Apart from the security of its engineers and workers, who may be exposed to militant violence, there are also the tough conditions in the bidding process itself. According to Huang Lei, the Chinese companies have to compete with other international companies, specifically with the European and American companies preferred in Pakistan. Besides, the stringent quality requirements and other conditions are generally seen as posing constraints upon the Chinese bidder (Huang 1999). Another problem is

that of huge sediment deposition, specifically in the Diamer-Bhasha Dam area (Tate et al. 2001).

While China has thus been cooperating extensively with Pakistan on Indus basin projects, its responses towards India are different. To a large extent, these responses were conditioned by Cold War logic and the balance-of-power approach, although there has been some softening in recent times, specifically in the signing of memoranda of understanding, if not in actual water-sharing treaties (Zhifei 2011). In relation to India, three recent trends suggest that water-related issues could be potential problem areas between these two countries[2]. As has been pointed out in the above tables, apart from the Indus River, there are also several tributaries and rivulets which merge with the Indus as it meanders towards the north and the west. In relation to India and China, these include the Chip Chap, Galwan, Shiquanhe and Sutlej rivers, with all of them disputed, whether over sharing, any artificial structures built on them impacting the downstream environment, or socio-economic impacts (Geng 2012; IDSA 2010). Due to the construction activity and the attendant deforestation in Tibet and Xinjiang, the water levels are falling and silt deposits are increasing, raising concerns downstream (Zhong et al. 2011: 154). In June 2005, an artificial lake on the upper reaches of the Sutlej River in Tibet burst leading to concerns on the lower reaches of Kinnaur district in Himachal Pradesh (Vinayak 2005). A year earlier, such flash floods had wrought havoc downstream (The Hindu, August 18, 2004). Unlike in 2000, when a similar outburst flood washed off apple cultivation in Himachal Pradesh, this time around China alerted the Indian side, although a visit by a four-member team from India to the site was put off (Arpi 2004). Also, the Depsang Plains incident between April 15 and May 6, 2013, in the western sector of the border between China and India, when the Chinese troops "intruded 19 km" and pitched tents inside the Indian claimed areas at Daulat Beg Oldi, had once again brought the river water dispute into the limelight with a blogger in China arguing that the area falls within China's sovereignty claim (Sina.com, April 28, 2013). River water issues thus have a clear bearing on the territorial dispute between the two (Wang 2013:11).

Under pressure from New Delhi, China has expressed its willingness to enter into an understanding with India on water issues, although the process is extremely slow and complicated. Both countries signed the first MoU on water issues during the visit of Premier Zhu Rongji to New Delhi in January 2002 for hydrological data exchange on the Brahmaputra (Ministry of Water Resources 2013–2014: 60). This was renewed later in 2008. In 2006, an expert-level mechanism was established during the visit of President Hu Jintao to India. This meeting format, repeated eight

[2] According to the Indian Central Water Commission report of 2015, up to the Indian border, the average annual water resources potential (billion cubic metres) of the Indus River is 73.3 (as compared to 537.2 for the Brahmaputra River); and in 2010 there was an estimated population of 57 million people living in the Indian-administered regions served by the Indus waters. These population figures are expected to increase to 69.2 million in 2025, to 81 million in 2050. Consequently, the estimated per capita average annual water availability (thousand cubic metres) is estimated to decline from 1,270 in 2010 to 1,059 in 2025 and 900 in 2050 (Indian Central Water Commission 2015: 31).

times between 2007 and 2014, discussed transboundary water issues. After Indian Prime Minister Manmohan Singh raised the matter of Brahmaputra River diversion projects at the Durban meeting with President Xi Jinping in May 2013, an MoU to renew the hydrological data exchange agreement was signed during Premier Li Keqiang's visit to Delhi in the same month. Further mention of this issue was made during Prime Minister Modi's visit to China in mid-2015; and during Vice President Li Yuanchao's visit to Delhi in late 2015, another MoU was signed. While the above were mainly addressed to the Brahmaputra River, in 2005 an MoU was signed dealing with hydrological data on the Sutlej River waters and this was renewed in 2010 (Ministry of Water Resources).

9.4 Conclusions

Thus while China undertook several major measures domestically in recent decades to alleviate water stress levels, its actions in regard to the international dimension of the rivers had created mixed prospects, with cooperation with Pakistan growing while tensions expanded with its other neighbours (Zhifei 2015; Chellaney 2011; Elhance 1999; Gleick 1993). The lower riparian states, including Kazakhstan, India, Pakistan, Bangladesh, Myanmar, Laos, Cambodia, Thailand, Vietnam and others, have become attentive towards China's water usage and control policies, although the latter has several non-binding MoUs signed with some of them.

Officially, the Chinese leadership had indicated that China would like to coexist peacefully with its neighbours to create a "harmonious world". China has initiated several policies aimed at furthering not only its comprehensive national strength (with diverted water resources partly factored in) but also revived "good neighbourliness" policies. Indeed, at the all-powerful 16th Communist Party Congress (2002), 17th Party Congress (2007) and 18th Party Congress (2012), relations with the neighbouring and developing countries had been given high priority. Nevertheless, several events in the international arena as well as at the regional level indicated that on water-sharing issues, China's responses have been largely bilateral in form but unilateral in content, with hardly any multilateral cooperative effort at all with the neighbouring and lower riparian states. A major exception is China's role in the Mekong Commission. Even here, however, the concerned Southeast Asian countries have recently voiced apprehensions on the environmental fallout of big dam construction in the upper reaches of the Mekong (Osborne 2015; Zaffos 2014). China's position on water issues could become problematic from the point of view of its soft power status in the immediate neighbourhood, not to mention the legal wrangling that might arise if the concerned lower riparian states were to resort to international jurisprudence and arbitration procedures as did the Philippines in regard to the South China Sea dispute. Another aspect is that China's actions on water issues could also lead to a balance-of-power approach by the affected lower riparian states. Although China has observer status in the South Asian Association for Regional Cooperation and has expressed its interest in becoming a full-fledged

member, it is not clear so far whether the issue of water sharing between all these concerned states will be addressed in that forum or whether any coordination between the lower riparian states could take place there. Of course, China has been silent on this issue so far, confining itself to making arrangements at the bilateral level with Pakistan and Bangladesh. A major dilemma for China is that, on the path to its rise in the global economic and strategic matrix, water-sharing issues could pose serious problems for it. Hence, Beijing is exploring several options.

To start with, in the north-western regions of China flow important rivers that are transboundary in nature. One is the Irtysh River, which originates in the Chinese-held Altai Mountains and flows through Xinjiang, on into Kazakhstan's Lake Zaysan and finally into the Ob River in Russia through Omsk city. Another river, the Ili, drains water into Kazakhstan's Lake Balkhash after entering through Almaty city. China plans to divert these two major rivers, in addition to nearly 23 other smaller rivers and tributaries. This has raised concerns in Kazakhstan, as its industrial regions such as Karaganda and Pavlodar depend on the Irtysh. In addition, Kazakhs accuse China of seizing 150 mile^2 of Kazakh territory in 2001 for the control of the Black Irtysh River watershed. This is despite the border treaties between the two signed in 1996 and 1997. It has been reported that China has been unwilling to expand negotiations on water-sharing issues with the Central Asian states and Russia in the multilateral forum of the Shanghai Cooperation Organisation and instead treats this subject in a bilateral fashion (Gulati 2014). China (and Afghanistan) also refused to be part of the Central Asian initiative in Interstate Coordination Water Commission with prospects for conflict among these countries increasing (Castelein 2002: 114).

Secondly, at the international level, China, along with Turkey and Burundi, as upstream countries, opposed and voted against the 103 countries that supported the 1997 United Nations "Convention on the Law of the Non-Navigational Uses of International Watercourses". China refused to accept the words "transboundary" or "international" for waters flowing from one country to another (McGaffrey et al. in Menniken 2007: 102; Castelein 2002: 122). Further, China has also withdrawn its commissioner from participating in the World Commission on Dams meeting in 2000 (Menniken 2007: 102). These indicate the unilateralist position of China as an upstream country, and they also imply that China's dam construction activities in Tibet, Yunnan and other bordering provinces would not be governed or interrupted by international legal principles.

Thirdly, China's proposed plan for the construction of a dam at the Great Bend on the Yarlung Zangbo/Brahmaputra River as a part of the SNWDP is creating ripples in the lower riparian states of India and Bangladesh (McGormack 2001). The lower riparian states' concerns include the possible drying up of the delta region (due to silt deposition and water diversion), natural calamities (as the project traverses through earthquake-prone regions), harmful ecological changes and the like. As an experience in the Pearl River Delta in South China indicated, trapped silt in the reservoirs upstream led to the depletion of the deltas and lower reaches and/or decrease in fisheries and fertility downstream. While this benefited the farming communities at the reservoir site, it also led to changing fortunes downstream.

China's experience in South China forecasts future problems in Assam and Bangladesh if the SNWDP is successfully implemented. While India and China had agreed to share information on natural disasters as a part of the 1996 CBMs agreement (Article 8, Clause 2), the concerns are persisting after flash floods in Himachal Pradesh and Assam. India and China had signed MoUs on hydrological data exchange on the upper reaches of the Brahmaputra, although India now needs to pay hefty amounts for procuring such data. Although some Chinese water analysts at track II conferences the author attended in Beijing and Shanghai indicated that China is amenable to resolve any conflicts arising out of the use of these finite resources, specifically if these are directed towards irrigation purposes, this idea has so far not become an official stance and hence raises concerns in the lower riparian countries.

Fourthly, more specifically related to the Indus River and its tributaries, China's responses have been varied and contradictory in nature. On the one hand, China has stated that Kashmir is a disputed territory, but its developmental activities in Pakistan-controlled areas have clearly been tailored to the "all-weather" relations between China and Pakistan, not to the troubled relationship between China and India. Indeed, China has been gambling rather recklessly in this regard, since a majority of the investments of the promised $46 billion appear earmarked for the Pakistan-controlled Kashmir region. China also intends to secure the promised water storage, hydroelectric and infrastructure projects through the use of its own military forces in the medium to long term. Sending of Chinese military helicopters to Pakistan during natural disasters in Pakistan-controlled Kashmir region and the dispatch of Chinese security personnel to protect Chinese engineers and workers at construction sites are indicators of this possibility. The Indus basin unquestionably offers enormous scope for cooperation between China and Pakistan, partly due to the coincidence of strategic interests between the two and their joint opposition to India. On the other hand, China's responses to Indian requests for concluding an understanding on the Indus River have been met with much scepticism or opposition. Progress on this front has either been stalled or piecemeal. Thus we do not yet find basin-wide cooperation inclusive of China, India and Pakistan. While China takes notice of the Indus Waters Treaty between India and Pakistan, no such treaty exists between China and India, this in spite of the fact that the Indus originates in Tibet.

While cooperative efforts in relation to the Indus basin exist at a preliminary level in the form of MoUs, potential competition or even conflict clearly exists between China and India, mainly due to the former's balance-of-power approach towards New Delhi and India's sensitivities in regard to its sovereignty claims over Kashmir. India has objected officially to China's construction activity in the disputed Kashmir region. For an effective and integrated Indus River basin management, it is imperative that all the stakeholders in the basin area come together and explore options comprehensively. The experiment of the World Bank, which in 1960 brought together the rival states of India and Pakistan, is a useful example in this regard. Also, taking into account China's current focus on constructing hydroelectric dams in Pakistan, there is scope for exploring opportunities for trans-

regional use of the Indus River system for transportation purposes by China, India and Pakistan. Innovative measures of this kind could lead to basin-wide cooperation as well as to economic interdependencies in the longer term that provide for an alternative and more promising paradigm.

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