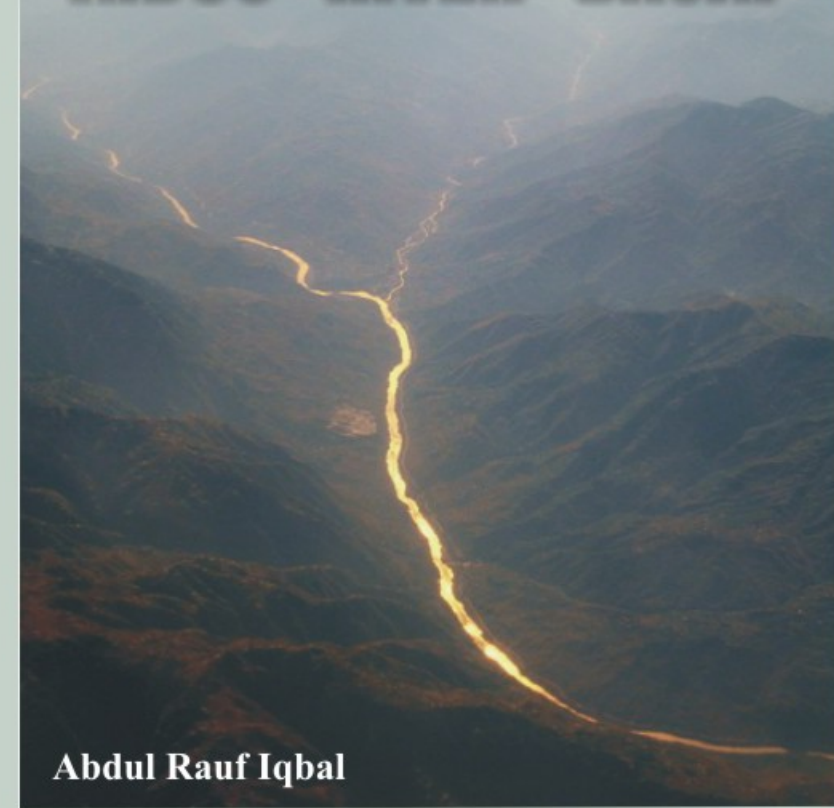




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***WATER WARS AND  
NAVIGATING PEACE OVER  
INDUS RIVER BASIN***



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بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ  
عَلَّمَ الْإِنْسَانَ مَا لَمْ يَعْلَمْ

TAUGHT MAN THAT WHICH HE KNEW NOT

## NDU MONOGRAPH

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# **WATER WARS AND NAVIGATING PEACE OVER INDUS RIVER BASIN**

## **Introduction**

Water – a source of life is threatened today because of extensive demographic growth, disordered urbanization, political actions and climatic changes etc. The human actions and their unpredictable behaviour is regarded as water's primary enemy in most of the "hydropolitics" literature. States are confronted with numerous challenges in regard of water; the demand for water is ever-increasing and at the same time, supply of water is decreasing. This disparity in demand and supply of water is now a serious source of concern in the study of International Relations. When it comes to the waters that cross political boundaries, additional complexities arise and strain the relationship of riparian states.<sup>1</sup> Hence, sharing of transboundary water is extremely difficult task and may create both conflict and cooperation among the states and same is the case with waters of Indus in South Asia.

South Asia – a home of more than one-sixth of the world's population,<sup>2</sup> depends heavily on agriculture. Water in South Asia is not only vital for everyday needs, but also a critical resource for economic development.<sup>3</sup> The increasing demand for water has surpassed supply and led to increased competition, tension, and disputes among various economic sectors, provinces, and sovereign states.<sup>4</sup> The politics of water-sharing arrangements have complicated inter-state relationships in the region<sup>5</sup> as Peter Gleick has reported that ". . . one factor remains constant: the importance of water to life means that providing for water needs and demands will never be free of politics."<sup>6</sup>

Addressing the water disputes between Pakistan and India, both countries signed Indus Water Treaty (IWT) in 1960 under the mediation of World Bank; which has survived three wars and other hostilities between the two nations. IWT is regarded as a remarkable example of conflict resolution and sets the path for future cooperation as Stephen P. Cohen has observed that, "the Indus Waters Treaty is a model for future regional cooperation, especially

on energy, environmental concerns, and even the management of the region's impressive water resources.”<sup>7</sup> Yet, recent Indian intentions of building chain of dams on Pakistani (western) rivers have once again brought the prospects of water conflicts among both countries. The recent stress and strain in the observance of treaty has had many analysts believe that water sharing will take a politically charged dynamic in the relations of two nuclear states.<sup>8</sup>

### **Aim of the Study**

According to Elhance, hydro-politics is a systematic study of conflict and cooperation between states over water resources that transcend international borders.<sup>9</sup> Indus water dispute is a burning issue between Pakistan and India as Pervaiz Iqbal Cheema concludes that “no dispute generated so much bitterness as did the one over the flow of waters.”<sup>10</sup> Starting from the very quotation, this research intends to analyze the future prospects of Indus by comparing both conflict and cooperation. The paper will start from discussing the importance of Indus River Basin and will go on by assessing potential of conflict and evaluates the avenues of cooperation.

### **Literature Review**

The international and transborder characteristic of shared water bodies make them a compelling test case for the analysis of conflict and cooperation.<sup>11</sup> Scholars like Westing, Gleick, Homer-Dixon, Remans, and Samson and Charrier stress the dangers of violence over international waters while others including Libiszewski, Salman and de Chazournes, and Wolf argue more strongly for the possibilities<sup>12</sup> and historical evidences of cooperation between co-riparians.

Water is a resource vital to all aspects of a nation's survival and the scarcity of water leads to forceful political pressures, often referred to as “water stress,” a term coined by Falkenmark.<sup>13</sup> Moreover, international law is equally obscure, vague and contradictory in terms of water which is a critical and non-substitutable resource.<sup>14</sup> May be in this premise, Ismail Serageldin, Vice President for Environmental Sustainable Development at the

World Bank went on saying that “if the wars of this century were fought over oil, the wars of the next century will be fought over water.”<sup>15</sup> Keeping in view the critical importance of water, it is banal to know that water is more often associated with war. Bulk of literature describes water as a future cause of interstate warfare. Westing suggested that “competition for limited fresh water leads to severe political tensions and even to war.”<sup>16</sup> Gleick described water resources as military and political goals.<sup>17</sup> Remans used case studies from the Middle East, South America, and South Asia as “well-known examples” of water as a cause of armed conflict.<sup>18</sup> Samson and Charrier wrote that “a number of conflicts linked to fresh water are already apparent” and suggested that “growing conflict looms ahead.”<sup>19</sup> Butts suggested that “history is replete with examples of violent conflict over water.”<sup>20</sup> Finally, Homer-Dixon, came to the conclusion that “the renewable resource most likely to stimulate interstate resource war is river water.”<sup>21</sup>

On the other hand, besides the hue and cry over water wars, there also exists an impressive history of water dispute resolution, in the academic literature. The Food and Agriculture Organization (FAO) of the United Nations has identified more than 3600 treaties relating to international water resources, dating between 805 and 1984.<sup>22</sup> Majority of these treaties deal with navigation.<sup>23</sup> Since 1814 about 300 international treaties have been negotiated to deal with nonnavigational issues of water management including flood control, hydropower projects, and allocations for consumptive or non-consumptive uses in international basins. Water as a source of cooperation has been analyzed in a greater detail by Hamner and Wolf.<sup>24</sup>

Waters of Indus daily find a special place in the leading newspapers of the region because of ongoing water problems. Hundred of articles have been written on Indus water issue but the dichotomy with the existing literature is that it is more of diverse in nature. Scholars have touched various aspects of the issue starting from economic importance,<sup>25</sup> technical problems,<sup>26</sup> climate change<sup>27</sup> and violation of the treaty<sup>28</sup> to potential of conflict,<sup>29</sup> legal aspects,<sup>30</sup> management<sup>31</sup> and mediation<sup>32</sup> factor. Contrary to the existing literature, this essay will employ both the theories of conflict and

cooperation in order to analyze the future prospects of Indus and tries to locate the avenues of peace.

### **Indus Waters – A Lifeline for Pakistan**

The northwestern part of South Asia is dominated by the Indus Basin. The Indus River originates near Mount Kailash Range in Tibet and thereafter it flows to the West, eventually running into Arabian Sea.<sup>33</sup> The total area of Indus basin, the area draining the Himalayan water into the Arabian Sea, is about 365,000 square miles.<sup>34</sup> With its source at 5,100 metres elevation in south-west of Tibet, it extends to Tibet, Afghanistan and India.<sup>35</sup> Afterwards, it enters into Pakistan in north-western Baltistan crossing from east to west over Indian Ladakh.

Flowing for about 1,800 miles within Pakistan, Indus could be associated as the life-blood of the country – which could not function without the support of this mighty river.<sup>36</sup> The watershed area of Indus outside Pakistan is largely in arid upland cold desert with a sparse human population while the story is quite different within Pakistan territory, where the Indus is known to have given birth to one of man's earliest recorded civilizations.<sup>37</sup>

Indus basin mainly involves two countries – Pakistan and India. In Pakistan, the alluvial plains of the Indus basin cover approximately 25 percent of the land area of Pakistan, with Punjab and Sind the most agriculturally important provinces.<sup>38</sup> In India, the basin includes only 9.8 percent of the total geographical area of the country. On the Indian side, the upper part of basin involves Jammu & Kashmir and Himachel Pradesh, while the lower part covers the area of Punjab, Haryana and Rajasthan.<sup>39</sup>

### **Dispute over Indus Waters – A Historical Background**

Given the territorial limits of the basin, it is unsurprising that divide of this basin has become a source of significant controversy. The dispute over Indus waters started in the form of inter-state differences before the partition of subcontinent. But after the independence in 1947, the dispute became an international issue

between Pakistan and India. In this sense, the region's defining event was 'hasty, unimaginative and surgical partition' of British India.<sup>40</sup> After the partition, political boundary between two states was drawn right across the Indus Basin. It left Pakistan as the lower riparian while making India as an upper riparian. Adding insult to injury most of the headwaters went to Indian side and thus leaving Pakistan as more vulnerable state. India was therefore given the physical capacity to cut off vital irrigation water from large and valuable tracts of agriculture land in Pakistan<sup>41</sup>.

The water dispute between the newly born states surfaced in April 1948, when India closed the canals on the eastern rivers of Ravi and Sutlej, only agreeing to reopen them after the Inter Dominion Agreement of May 1948, where it claimed the entire water of eastern rivers<sup>42</sup>. This was only a provisional agreement and the Indus Water Treaty (IWT) was finally negotiated between India and Pakistan in 1960 under the mediation of World Bank. This gave Pakistan the western rivers (Chenab, Jhelum and Indus) and India, the eastern rivers (Beas, Sutlej and Ravi). Some restrictions were also imposed on Indian capacity to modify the flow of western rivers as she was the upper riparian for even these rivers.

### **Indus Water Treaty (IWT)**

The signing of Indus Water Treaty (IWT) in 1960 was no doubt a 'remarkable achievement'.<sup>43</sup> It brought to an end the long standing dispute between India and Pakistan. This treaty was culminated through a long period of negotiation under the mediation of World Bank. The primary objective of IWT was to fix and delimit the rights and obligations of each country's use of waters in relation to other.<sup>44</sup> The water sharing under this treaty was quite simple:-

- The three western rivers (Chenab, Jhelum and Indus) were allocated to Pakistan, and India was given the full control of three eastern rivers (Beas, Sutlej and Ravi).
- India was not allowed to build storages on the western rivers except to a very limited extent.
- Restrictions were also imposed on the extension of irrigation development in India.

- There were also provisions regarding the exchange of data on project operation, extent of irrigated agriculture, and so on.

The treaty further mandated certain institutional arrangements:-

- There was to be a permanent Indus Commission consisting of a Commissioner each for Pakistan and for India, and there were to be periodical meetings and exchanges of visits.
- Provisions were included for the resolution of the differences that might arise.<sup>45</sup>
- The treaty also included the provision of international financial assistance to Pakistan for the development of irrigation works for utilizing the waters of western rivers.

### **Recent Stress & Strain in Observance of IWT**

IWT survived in the midst of wars and border clashes but at present, a bitter dispute over limited water resources is stimulating Pakistan-India tensions. Water is a longstanding feud that has worsened in recent months as India is planning to build new dams on Pakistani (western) riveres. Under the IWT, India was granted limited use of Pakistan's rivers for agricultural purposes and the right to build hydroelectric dams, provided they don't store or divert large amounts of water. Contrary to it, India is building chain of dams in clear violation of the treaty with the storage and diversion capability.

The “dams fever” of India has gripped the region with suspicions, trust deficit and hostility as India has a history of water conflicts with almost all its neighbours.<sup>46</sup> Forgoing in view, it is quite obvious that Pakistan is very much concerned with the Indian projects on western rivers. Further, Pakistan has become one of the driest countries in the world because of the recent shortages of water. Islamabad criticizes Indian dams which have enabled India either to reduce water flows to Pakistan or to release store waters and cause floods. While the Indian officials blame any reduction in water to the climate change and denies any intention to cut off



Pakistani waters. The Indian ambassador to Pakistan, Sharat Sabharwal, went on saying that “preposterous and completely unwarranted allegations of stealing water and waging a water war are being made against India.”<sup>47</sup> But it is quite obvious that India has gained somewhat physical capacity of storage and diversion on western rivers.

Pakistani objections are related with the availability and security of the water but Indian position is different to that of Pakistan as Shamsul Mulk said that “if he has the capacity to hurt me, the best that can be said about him is that he will use it for blackmailing and the worst is that he will use it to harm me.”<sup>48</sup> Whatever the reality is, recent stress and strain in the observance of IWT have had many analysts believe that water sharing will take a politically charged dynamic in the relations of two nuclear rival states.<sup>49</sup>

### **Indian Projects and its Implications for Pakistan**

Critical analysis of the Indian measures shows that India’s need for water and yearns for hydro electricity has grown over the period of time. Its greed has reached to an extent that it feels no problem in depriving Pakistan from its due share of water from the western rivers. Although India was granted limited rights over the western rivers yet, unfortunately it is exceeding from its share in clear violation of the treaty. Also, India has become the third country in the world in dam building, after United States and China and instigated numerous projects on the Pakistani rivers in Indian Held Kashmir (IHK) including five large ones.<sup>50</sup> India is not only limiting itself to IHK but has also succeeded in constructing a dam on River Kabul, a tributary of River Indus. It is setting up *Kama* hydroelectric project on River Kabul in Afghanistan which will have serious repercussions on the water flow in Indus. Some Indian projects and their possible implications for Pakistan are discussed below.

- **Wullar Barrage:** In 1984, India started construction of Tulbul Navigational Project (Wullar Barrage) near *Sopor*, 25 kilometers north of Srinagar in IHK, on the river Jhelum, involving construction of a barrage with a

storage capacity of 0.3 million acre feet (MAF) and planned power generation of 960 Megawatt (MW).<sup>51</sup> After so much of resistance from Pakistan it halted in 1987. Pakistan protested terming it a clear violation of Article 1 (11) and Article 3(8) of IWT. The strategic significance of the site lies in the fact that its possession provides India with the means to intimidate Pakistan as a dam there has the potential to ruin the entire triple canal project (namely, Upper Jhelum Canal, Upper Chenab Canal and Lower Bari Doab Canal) and also enable India to reduce water inflow in Mangla Dam during dry season.<sup>52</sup> After a series of unsuccessful discussions, Pakistan threatened to take the case to International Arbitral Court. India stopped the works on the project thereafter and the project is still lying redundant.<sup>53</sup> The barrage is located at the outfall of Wullar Lake, having a length of 439 feet with a gated weir, under-sluices and 12 meter wide navigation lock.<sup>54</sup> Under the provisions of IWT, India is not allowed to build any storage on the main river (Jhelum) except for 0.75 MAF (Annexure D of IWT) of storage on the tributaries of river Jhelum and 0.01 MAF incidental to a barrage by virtue of paragraph 8(h) of Annexure E which clearly states that “storage incidental to a barrage on the Jhelum Main not exceeding 10,000 acre feet”.<sup>55</sup> By virtue of paragraph 9, India is permitted to construct on the Jhelum Main such works which it deemed necessary for flood control of River Jhelum and complete any works which were under construction on the effective Date (date on which IWT took effect). However, such a concession predicated on the condition that no storage is constructed on the Jhelum Main and instead the storage is constructed in side valleys depression and lakes. It is also stipulated that the stored waters would be released and returned to Jhelum Main lower down soon after the flood recedes with the exception of those waters held in lakes borrow-pits and natural depressions.

- **Kishanganga Project:** The proposed Kishanganga Project is located in IHK at river Neelum. The original

design envisaged the construction of 268 meter long and 75.48 meter high concrete dam with reservoir capacity of 0.18 MAF and power storage of 0.14 MAF. The stored water of River Kishanganga is to be diverted through a 22km long tunnel to produce power of 330 MW. The water after production of power is to join Wullar Lake. Pakistan has objected to the project terming it a violation of IWT. It has been reported that India has almost completed the 22km tunnel to divert Kishanganga (Neelum) waters to Wullar Lake in violation of the Indus Waters Treaty and is working to complete the 330MW project by 2016.<sup>56</sup> If completed, the project would severely affect Pakistan's rights over the river, reduce the river flows into Pakistan and minimize its power generation capacity of the 969MW Neelum Jhelum Hydropower project near Muzaffarabad in Azad Kashmir. Pakistan raised objections on two accounts first, the design criteria of the project and secondly, the diversion of flow of one tributary to another is not allowed in IWT. In addition, this is likely to harm Pakistan's power potential as Pakistan has already started constructing Neelum Jhelum HEP in Azad Kashmir. The issue had been on the agenda of the Permanent Indus Commission for more than eight years and now Pakistan has finally decided to approach the International Court of Arbitration against construction of the controversial Kishanganga Hydropower Project and has formed a team of legal experts to fight the case.<sup>57</sup>

- **Baglihar Hydropower Project:** Baglihar Hydroelectric Plant is a run-of-river project being constructed by India on river Chenab. Under the IWT, India is allowed to construct run-of-river hydroelectric plants on western rivers, subject to the provisions of the treaty. The design of the plant should be in accordance with the criteria provided in paragraph 8 of Annexure D to the treaty. This project involves construction of 144.5 M high concrete gravity dam on Chenab River, 90 km north of Jammu and upstream of Salal Dam, and power generation capacity of 450 MW in its first stage. Pakistan

raised a number of objections on the design parameters of the dam which were found in clear violation of IWT. The dispute, after years of unsuccessful talks, was referred to the World Bank which appointed neutral expert, a Swiss civil engineer Professor Raymond Lafitte who gave his decision in Feb 2007. The decision asked India to make necessary amendments in design parameter on three out of four major technical objections raised by Pakistan.<sup>58</sup> It is believed that minor changes in design parameters will not make a considerable difference to the initial design, however, will cost India billions of extra rupees and delay in completion of project. Both countries have termed Latiffe's ruling as their victory as *The News* reported that "the common people found it strange as to how a ruling could simultaneously satisfy two conflicting claims"<sup>59</sup> Experts are of the view that the Baglihar dam will have major security and economic implications for Pakistan owing to increased Indian control over its share of water supplies as the project will tap around 7000 cusecs of water for irrigation purpose in the short term.<sup>60</sup> Further, India can use water as a weapon as she has got the capability to manipulate the flow of water and also, the project can lead to inundation of the area above Marala Head Works due to the sudden synchronized releases from Dul-Hasti, Baglihar and Salal reservoirs.

### **Reasons of Differences**

Differences are arising from different approaches to, and interpretations of, various provisions of the main text of IWT.<sup>61</sup> The detailed provisions and specifications given in the several Annexure and Appendices of the treaty further pave the way of differences. Critical evaluations of the recent tensions show that there are following major problems which pave the way for differences:-

- IWT is a highly technical treaty and dense technical details provide ample opportunities for differences, among both sides of engineers.

- Environmental issues like climate change and global warming have not been covered in the treaty and India links the reduction of water in western rivers with climatic change.
- The treaty has divided eastern and western rivers between India and Pakistan. Although both countries have got exclusive rights on three rivers each yet Pakistan lost the lower riparian rights on eastern rivers under the treaty.

### **Hydro-Environment of Pakistan**

Pakistan, one of the world's most arid countries, with an average rainfall of under 240 mm a year is heavily dependent on an annual influx into the Indus River system – of which about 180 billion cubic meters of water of the system emanates from the neighboring country and is mostly derived from snow-melt in the Himalayas.<sup>62</sup> This hydraulic economy of Pakistan faced massive challenges right from the independence of country in 1947. At present, major challenges emanating from the availability of water in Pakistan are:-

- **Water Scarcity.** Pakistan is one of the most water-stressed countries in the world. The situation is going towards the worst water scarcity due to Indian obstruction of western rivers water, population growth and climate change.
- **A high risk water environment.** Pakistan is dependent on a single river basin i.e. Indus River. This dependence on a single river system means it has little of the strength that most countries enjoy by virtue of having a multiplicity of river basins and diversity of water resources.<sup>63</sup>

### **Prospects of Conflict**

The summer's catastrophic floods of 2010 in Pakistan have affected about 20 million of the population and it is constantly inundating into new parts of the country and thus causing a

humanitarian disaster.<sup>64</sup> The people living near the banks of Indus have seriously affected and the flood has caused deaths, injuries, diseases and displacements in Balochistan, Khyber Pakhtunkhwa, Punjab and Sind. According to the United Nations, the number of people suffering from the massive floods in Pakistan could exceed the combined total in three recent mega disasters; the 2004 Indian Ocean tsunami, the 2005 Kashmir earthquake and the 2010 Haiti earthquake.<sup>65</sup> At this juncture, when a huge area of Pakistan is covered with the flood water, probably it seems very odd to talk about the scarcity of water. But one needs to really understand two important points. Firstly, the flood water is of no use at all rather it is a curse which has demolished the prosperous life of hundreds of families and caused damage to the economy worth billions of dollars. Secondly, when the flood water will eventually fall into the Arabian Sea and the Indus River would calm down, people would be again suffering from the water shortage as it was the situation before the flood.

In fact, water in Pakistan is increasingly becoming a scarce commodity due to Indian hitching of western rivers, increasing population pressures, intensive irrigation and erratic weather patterns. Water scarcity is related with the availability of water, which is measured in cubic meters per capita per year and according to the World Bank, Pakistan became a water-stressed country (1,700 cubic meters per capita per year) around the year 2000.<sup>66</sup> While the government sources project that Pakistan became a water-short country in 1992 (1,700 m<sup>3</sup>) and then declined further to 1,500 m<sup>3</sup> in 2002.<sup>67</sup> Water scarcity (1,000 m<sup>3</sup> per capita per year of renewable supply) is expected in about 2035.<sup>68</sup> However, a United Nations Development Programme source gives Pakistan's current water availability as 1,090 m<sup>3</sup> per capita per year.<sup>69</sup> This is because the terms 'water shortage' and 'water scarcity' are often used interchangeably, while both use the 1,000 m<sup>3</sup> per capita per year as a benchmark. It is pertinent to mention that 'shortage' is an absolute term and 'scarcity' is a relative concept.

Given the Indian capacity, water scarcity and the high risk water environment of Pakistan, one can easily conclude that the future wars of South Asia would be on water as numerous scholars

have already concluded. Both are nuclear states and possess a rivalry record right from the independence. A US based environmental action group, NRDC (Natural Resources Defense Council) has conducted analysis of the consequences of nuclear war in South Asia and has produced far more horrific results.<sup>70</sup> May be, the water war theorists have no time to go through such reports and also the hawks from both sides find their reports as a holy version for future. They used to project the conflicting news without understanding the dire consequences of conflict between the two states.

### **Prospects of Cooperation:**

Critical evaluation of the Indus water dispute reveals that the prospects of conflict are there because both governments seek to control the river of their region as tangible solutions to the most of economic problems.<sup>71</sup> This desire to control the river through national visions, covert appropriation and bilateral bargaining is a pathway to the conflict. Contrary to this view, a good number of scholars, officials and politicians in South Asia believe that the region's rivers can be better harnessed in support of economic development.<sup>72</sup> As George Verghese has written that "there is no reason why the immiserised population of this resource-rich Basin should remain poor and hostage to a recurring cycle of devastating flood and drought."<sup>73</sup> This link between water and development can be fully harnessed by removing conflicts over the water. It also shows that the cooperation is only a viable option as water is so important that nations cannot afford to fight over it. Rather, water injects interdependence by joint management of shared water resources; it promotes trust and prevents conflict.<sup>74</sup>

Water war scholars suggest prospects of war on the basis of scarcity but one has to also look upon the other side of the story. It is true that water is increasingly emerging as a scarce commodity and one third of world's population will lack access of water by 2025.<sup>75</sup> But it does not mean that scarcity always lead to conflict. Besides the conflicting patterns, a ray of hope still exist which can lead to the avenues of further cooperation. At the global level, two thirds of the time cooperation occurs over shared waters and same case can be happen over Indus waters. In fact there are solutions for the

dispute, but immense resistance to adopting them.<sup>76</sup> One has to understand the fact that no country would run out of water but providing water will have to become a more careful process.<sup>77</sup> When it comes to the shared waters, it is a fact that water itself did not respect political boundaries, but the governments used man-made borders to protect their sovereignty, economies and nationalities.<sup>78</sup> Because of the water crossing the international borders, unilateral and inefficient management of shared waters often exacerbates tensions.<sup>79</sup> But violence over water, though not uncommon, is not a strategically rational, effective or economically viable option for countries.<sup>80</sup> The history bears witness to the fact that cooperation, not conflict is the most logical response to trans-boundary water management issues.<sup>81</sup> Cooperation over waters starts from acknowledging that water is at the centre of everything and it is not 'lost' from earth,<sup>82</sup> but it is often moved from where it is needed as its movement is essential for life.<sup>83</sup> Also, when shortages pinch, states do cooperate and compromise because no one can do anything without water.<sup>84</sup>

Coming over to Indus waters, Pakistan and India possess a long history of rivalry starting from Kashmir to the present water dispute. And the hawks on both sides are attempting to use water to create an insurmountable impasse in the dispute over Kashmir.<sup>85</sup> Some experts are of the view that water will be the most potent political weapon by which India will 'screw' Pakistan.<sup>86</sup> On the other hand, some also suggest that sharing of waters forms a framework for the two enemies to cooperate.<sup>87</sup> Significance of water resources leads to politicization of the issue and eventually increases the tensions. This results in irrational actions by national governments due to domestic political pressures, which in turn may have an adverse impact on international water-sharing agreements and their resolution.<sup>88</sup> But the policy makers have to understand that they cannot solve a very complex geographical, hydrological, economic and environmental problem through politicizing. It is true that India has brought Pakistan on the brink of mass starvation and the tactics of turning it into a desert had begun by shrinking water availability from 5000 cubic meters per capita in 1950s to 1000 cubic meters in 2010.<sup>89</sup> Meanwhile, Indian long term energy requirements are also linked with Pakistan and it cannot fulfill its



development goals without having transit facilities through Pakistan for oil and gas pipelines from Iran and Central Asia. As the concept of security now covers assured access to both water and energy resources, this demands a virtual transformation of Pakistan-India relations from one of confrontation to that of cooperation.<sup>90</sup> Increased cooperation between India and Pakistan would promote regional stability, help control the nuclear arms race, and make an end to the Kashmir conflict more likely.

### **Policy Recommendations**

Gaining cooperation is not an easy job. It requires commitments and so many policy decisions from both sides. Some of the policy recommendations for avenues of peace are given below:-

- Cooperation over water is likely to happen when the parties see shared benefits.
- Pakistan should highlight the importance of the issue on various international forums. Merely passing the political statements will not resolve the problem.
- Indian intentions and needs should be distinguished on quantitative terms to highlight the real face of India among international community.
- The treaty does not provide so many important issues like availability of water, effects of climate change and proportional increase or decrease of water in quantitative terms. Pakistan should look for proper strategic forum for deliberative discussion and policy options for these issues.
- At present, renegotiating the treaty seems impossible and Pakistan has to relook its water policy in the given limits of treaty. Therefore, effective role of Indus Water Commissioners is the need of hour.
- Interstate conflict can be managed through internal strength and same is the case with water conflicts. Pakistani policy makers should understand the concept of conflict resolution and initiatives must be taken on

capacity building as no one can compel any sovereign state (India or Pakistan) to act on morality.

- There is serious need to work on water management as the available water is being wasted and the groundwater table is going below and below.

## **Conclusion**

Pakistan has become a ‘water stress’ country and reached to the limit of 1000 cubic meters per person per year. If the situation becomes worse, serious economic and social consequences are likely. Indian’s violation of the treaty is not only a security and economic concern for Pakistan but also can pose serious implications on the region’s overall security as the both states possess nuclear arms. Although, chances of direct violence exist because of the hawkish elements on both side but it can be avoided through effective implementation of the treaty. Both sides have to understand the fact that the cooperation is the only way to survive as water is a necessity for development of both countries. Further, inability to resolve water issues will limit the ability of both countries to manage and utilize water resources in the most efficient manner. One can hope for the peace but unless the basic cause is removed, the nuclear war in South Asia can not be ruled out.

## **Notes**

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<sup>4</sup> Salman M.A. Salman and Laurence Boisson de Chazournes, ed., *International Watercourses: Enhancing Cooperation and Managing Conflict*, Proceedings of a World Bank Seminar, World Bank Technical Paper No. 414, 1998, pp. 167.

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<sup>6</sup> Peter H. Gleick, *Water Conflict Chronology*, Pacific Institute, December 2004, available online at <http://www.worldwater.org/chronology.html>.

<sup>7</sup> Stephen P. Cohen, “The US and South Asia,” *Seminar*, No. 545, January 2005, pp. 6.

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