

## Water Sharing Dispute in Pakistan: Standpoint of Provinces

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### Abstract

*River water sharing is a multidimensional problem. One aspect of the problem is share of each province in river-water and its availability at the time of need. Pakistan is hard pressed between decreasing storage and increasing water demands. The shortage of water for agriculture has become a serious problem in Pakistan and has not been resolved satisfactorily. It has caused much bitterness among the provinces and between the federal government and provinces. The water issue has resulted in creating great distrust among the provinces. Independent water experts have been continuously warning for years that the country's provinces would come to a serious confrontation if the issue of decreasing water resources is not addressed properly and urgently but their apprehensions were never taken into account by the concerned authorities. Successive federal governments have been unable to solve the problem for fear of losing votes in the aggrieved provinces. They preferred to defer the crisis, which is unresolved to date. The purpose of this article is to analyze varying aspects of the river water sharing dispute with regard to standpoint of provinces on the issue and suggest remedial measures to resolve the issue.*

**Keywords:** Water management; Irrigation System; Upper Riparian; Lower Riparian; Salinity; Indus Basin Water Treaty; Indus River System Authority (IRSA); Provincial Irrigation Departments (PIDs); Provincial Irrigation and Drainage Authorities (PIDAs); Telemetry System; poverty of water; poverty of dams

### I. Introduction:

The irrigation system of Pakistan is the largest integrated network in the world. There are 3 major storage reservoirs, 19 barrages, 12 inter-river link canals, 45 independent irrigation canal commands and over 122,268 watercourses.<sup>1</sup> The irrigation water is being used for agricultural, industrial and domestic purposes.

Out of various issues faced by Pakistan, major crisis is the river-water sharing dispute among provinces of the country. If this crisis is solved, it will result in solution of many problems that the country is afflicted with. An offshoot of this problem of water sharing is the deterioration of inter-provincial relations that are extremely important to the integrity and viability of the federation.

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<sup>1</sup> Mumtaz Ahmed Sohag and Ali Asghar Mahessar, *Telemetry System in the Irrigation Network*, National Conference on Emerging Technologies 2004, (Hyderabad: Sindh Irrigation & Drainage Authority, 2004), P. 162

Essentially, the issue of river water sharing is among Sindh, Punjab and KPK. The impasse over the question of sharing river water among the provinces persists despite the creation of IRSA (Indus River System Authority), the 1991 water accord, and a Parliamentary Committee (established in 2002) on water resources to evolve a consensus. The smaller provinces in general ask Punjab to be charitable when the latter is apparently facing water and wheat supply problems of its own. Prevailing water shortage adversely affects economy of provinces, mainly of Sindh. Tarbela dam, the backbone of the country's irrigation sector, has reached its critically low levels. There is no release of any water from this dam for irrigational use during summer and as a result provinces face decreased agricultural production, primarily because of non-availability of irrigation water to standing crops, especially wheat and delayed sowing of cash crops, especially cotton.<sup>2</sup> Sindh believes that the water of river Indus belongs exclusively to it. Thus water being transferred from river Indus through two link canals, Chashma-Jehlum and Taunsa-Panjanad is tantamount to theft because it is transferred to Punjab at the cost of irrigation needs of Sindh. There is a growing concern in Sindh that if proper measures are not taken to reverse the unfavourable situation for Sindh, the province will face drought, famine and destruction of its agriculture. The Punjab, on the other hand, defends its case by maintaining that both these canals were built and operated under the Indus Basin Water Treaty, which was signed by the government of Pakistan, not the Punjab. It further claimed that Tarbela, along with Mangla dam, was built to provide water replacement of three of its eastern rivers, Ravi, Sutlej and Biaas that were given to India under the treaty. This water had to be transferred to the Punjab and two link canals were built. Sindh claims that the Punjab and KPK steal water through barrages falling under its territorial jurisdiction. The Punjab points out at water losses between Sukkur and Kotri barrages. Both provinces refused to move from their respective positions and the parochial political parties have given this national problem an ethnic colour, thus making the situation worse instead of resolving it.

Sindh does not get due share because the upper riparian provinces overuse the water, a charge denied by KPK and Punjab. Second aspect of this problem is the construction of water reservoirs in Northern areas and KPK and Punjab. The federal government and Punjab support the construction of Kalabagh Dam as first of the mega dams for water storage. However, the provincial assemblies of Sindh, Balochistan and KPK have passed resolutions against the construction of Kalabagh Dam. KPK maintains that the provinces' share in the net profit of hydroelectric power generated in the province is inadequate. Sindh complains about its share in the river water and accuses Punjab and KPK of over using water and robbing it of its share.

In view of great importance of water in the national economy and limited resources, more efficient use of water needs to be ensured, particularly in agriculture related activities, which consume over 90 percent of the total water quantity.

## **II. Retrospective Overview of Water-Sharing Dispute:**

If the history of water problem in the country is traced back, one will find that the problem has its origins in the dispute between Punjab and Sindh on the Indus waters since the

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<sup>2</sup> Mir Atta Muhammad Talpur, *Water shortage in Sindh: causes and consequences*, available at <http://www.sanalist.org/kalabagh/a-19.htm> internet accessed on July 8, 2013.

British had occupied both Sindh and Punjab in the middle of the nineteenth century. As early as in 1893, Lord Curzon constituted the Indus River Commission, which suggested, “The Punjab cannot divert water without the consent of Sindh, Bahawalpur, Balochistan and Bikaner.”<sup>3</sup> The issue came to the fore again in 1901, when the Indian Irrigation Commission prohibited Punjab from taking even a drop of water from Indus without Sindh’s approval. Under the guidance of the Roy Commission (Central Water Commission & a Technical Organization of India regarding Water Resources. It is currently working as an attached agency of the Ministry of Water Resources, Government of India) a committee comprising of the chief engineers of Punjab and Sindh came out with an agreement in 1945, called Sindh-Punjab Agreement. According to this agreement 75% of Indus waters went to Sindh and 25% to Punjab while 94% of its water tributaries were allocated to the Punjab and 6% to Sindh.<sup>4</sup> It resolved the distribution of the waters of all Indus basin rivers between Punjab and Sindh. Essentially, this agreement recognized Sindh’s supremacy over the Indus River and nothing upstream could be changed or built without its formal consent and approval. However, just three years afterwards in 1948, the Punjab started taking water unilaterally considering partition as basis of a fresh beginning of water management in violation of the agreement.

After the partition of India in 1947, a committee was established to resolve the water issues related to partition by March 31, 1948. The location of two canals in the Pakistani Punjab side had their headwork in the Indian Punjab. The Pakistani side agreed to the astonishment of everyone to pay for the right to use waters of the two canals. In 1948, an agreement was signed at Shimla to that effect. Pakistan lost its own water to India as a result. Consequently Punjab and Sindh found themselves in a dispute over river water sharing because to fulfill its irrigation needs Punjab had to depend on River Indus, which was the backbone of Sindh’s irrigation system.

### **The Indus Basin Water Treaty (IBWT):**

Another problem emerged in 1960, when the Indus Basin Water Treaty (IBWT) was signed between India and Pakistan, under the auspices of the World Bank. The agreement gave three eastern rivers, i.e., Bias, Sutlaj, and Ravi to India and three western rivers, i.e., Chanab, Jehlam and Indus to Pakistan. India was, however, allowed to irrigate 1.3 million acres of land from the western rivers. In return, India paid monies to Pakistan for the exclusive rights on the rivers allotted to her and irrigation rights on the western rivers. Also, the World Bank gave monies for development of the water projects in Pakistan. Unfortunately, no Sindhi was made a member of the negotiating team or the advisory board that was established with respect to IBWT. After this treaty, Punjab diverted Indus waters for Punjab in violation of the 1945 Sindh- Punjab agreement. It is in the aftermath of this treaty that the water shortage in Sindh has become worse.

### **The Indus Water Accord in 1991:**

After many a commissions and interim arrangements, the Nawaz Sharif government of Pakistan, signed the Indus Water Accord in 1991, amongst the four provinces for the Indus

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<sup>3</sup> *Sindh-Punjab mistrust has long history, says M.H. Panhwar*, Interviewed by Anwer Pirzado, (STAR Vol.XXXV No.47, Saturday the 24th February, 2001), available at <http://panhwar.com/Adobe/Article78.pdf>, internet accessed on 12 Aug, 2013

<sup>4</sup> Ibid

system waters. The Council of Common Interests (CCI) approved it on March 21, 1991. This landmark Accord was a great achievement as it decided on a formula of water distribution of Punjab's 24 canals, Sindh's three barrages and KPK's five canals.<sup>5</sup> However, in spite of signing of this accord, there emerged problems among provinces on water distribution.

### **The Indus River System Authority (IRSA):**

It was established under the 1991 Accord. Since the 1991 Water Accord, Sindh claims that it has never received its fair share of Indus water. The federal government has been locked in a debate on distribution of water among the provinces for a long time and the IRSA, an irrigation water allocation body has apparently failed to resolve the intra-provincial dispute over the sharing of irrigation water shortages equitably. IRSA, which represents all the four provinces and the federal government, is expected to allocate water in an equitable manner to the satisfaction of all parties concerned. But this has not happened since 1991. Unfortunately, within three years of signing the 1991 accord serious conflicts had started to surface among the provinces over water sharing.

IRSA's twenty one year life stands witness to the fact that it failed to implement the accord both in letter and spirit. The letters of the accord call for harnessing water resources, building new dams and developing water plans. But, it has failed on all three accounts. After failing to take up developmental part, IRSA's workings degenerated into reporting provincial fights to higher authorities. IRSA has been a forum for struggle of parochial fights instead of a federal body trying to manage ill effects of the water crisis. The federal government after realizing the problems in IRSA's working decided to change its composition and working mechanism. It decided to put professional engineers, though nominated by provinces but working as federal members, on the body. The government hoped that engineers would bring harmony that provincial representative had failed to bring.<sup>6</sup> However, by changing the composition of the body, the federal government applied symptomatic treatment. The disease, which is scarcity of water, has remained there. Once water problem is taken care of, it would be easy for any federal body to keep provinces in line. Water controversies started only in the mid-nineties when scarcity took hold of the country. Before the creation of IRSA, WAPDA had been overseeing water distribution. Since there was no scarcity, there were no problems. The core of the problem is water shortage; professional mishandling by IRSA has only compounded it and not created it.

### **The Vision 2025:**

The Vision 2025 plan was prepared without taking the provinces into confidence. Following the declaration of Vision 2025 by the WAPDA, a committee of eight experts from Punjab undertook the task of analyzing the document. According to their report, Vision 2025 is a blurred vision. Under its Vision 2025 program, Pakistan has planned numerous projects and approved them for construction. These projects include Kalabagh dam, Basha dam, Sukurdu dam, Akhori dam, Chiniot reservoir, Mirani dam, Gomal Zam dam, Kachhi canal, Chashma right

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<sup>5</sup> Wakil Anjum, *Load Shedding Will Come to an End By Constructing Small Dams*, in "Jang Sunday Magazine", June 15, 2008

<sup>6</sup> Khaleeq Kiani, *IRSA set-up to be changed*, in "Dawn", Sep 6, 2002

bank canal, greater Thal canal, among others.<sup>7</sup> Total availability of water is not enough in the system to entertain the luxury of so many projects on the Indus River System. Thus, the political parties due to mutual distrust among the provinces have politicized many of these projects. For example, Kalabagh Dam has been a subject of great controversy and political parties of KPK and Sindh have resolved to scrap this project. The PPP Government elected in 2008, with the consent of Awami National Party, announced to scrap Kalabagh Dam project once and for all.

### III. Water Management in the Federation of Pakistan:

The Constitution of Pakistan has entrusted responsibility related to Council of Common Interests and Water and Power Development Authority (WAPDA) to the federal government, while both the federal and provincial governments can carry out legislation regarding electricity.<sup>8</sup> Council of Common Interests (CCI) is responsible for coordination and resolution of conflicts regarding water and electricity between the provinces.<sup>9</sup> The Ministry of Water and Power carries out various functions and responsibilities in the water sector; it coordinates planning, development and management of hydropower resources, through WAPDA, Indus River System Authority (IRSA) and Federal Flood Commission (FFC). The legal cover for carrying out these functions is provided by various pieces of legislations, e.g. WAPDA Act, 1958, Environmental Protection Act, 1997, and Indus River System Authority (IRSA) Act, 1992.

The Provincial Irrigation Departments (PIDs) have historically been responsible for all water-sector activities at the provincial level, including planning, development, and the operation and maintenance of irrigation, drainage, flood control and reclamation works.<sup>10</sup> However, the role of WAPDA has progressively grown in relation to several of these activities. Since late 1950s, with the assignment of major water development works to WAPDA, provincial irrigation departments' (PIDs) functions were reduced mainly to operation and maintenance of the system. WAPDA is accused of being guilty of interfering in provincial affairs because provinces were not involved at any stage of the finalization of these projects. Most of the projects have been at identification stage, without inter-linkages (between planning and implementation) among them and these projects (six canals) are irrigation projects that fall directly under provincial jurisdiction.

The Provincial Water Accord, 1991 deals with apportionment of Indus River Waters between the provinces. IRSA Act, 1992 defines the institutional set up for distribution of surface waters between the provinces. In order to improve the overall performance of the irrigation system, the Federal and Provincial Governments decided to introduce the element of participatory irrigation management in all the provinces. To meet this requirement, legal frameworks were developed by all the provincial governments and were included in their respective PIDA Acts (Provincial Irrigation and Drainage Authorities) 1997. Management of the secondary irrigation system of Indus system was mainly operated and maintained by the four Provincial Irrigation Departments (PIDs). These have been transformed into corporate bodies

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<sup>7</sup> *Issues & Analysis Water vision: 2025*, available at <http://www.pakissan.com/english/issues/water.vision.2025.shtml>, Internet accessed on Aug 20, 2013

<sup>8</sup> The Federal and Concurrent lists of the constitution of Pakistan

<sup>9</sup> *Article 153- 155*, Constitution of Islamic Republic of Pakistan

<sup>10</sup> *Food and Agricultural Organization of the United Nations*, available at <http://www.fao.org/nr/water/aquastat/countries/pakistan/index.stm>, Internet accessed on Sep 6, 2013

known as Provincial Irrigation and Drainage Authorities (PIDAs) by provincial ordinances promulgated in January 1997.<sup>11</sup> These authorities have greater autonomy from the provincial governments, as well as greater accountability to the irrigation users. PIDAs in association with Area Water Boards, are supposed to carry out not only the operation and maintenance of the system and the distribution of water within their respective provinces, but also design and develop new irrigation and drainage works. This last function, over the preceding several decades, is being performed by WAPDA's Water Wing (a federal organization) at Lahore, which is also carrying out overall planning of water resources on a national basis.

However, in these provincial and federal set ups, there is considerable overlapping of activities. Design and construction of many irrigation works which are of strictly provincial nature, are being performed by WAPDA. Moreover, over the decades, provincial irrigation authorities have lost interest and ability to efficiently handle engineering design and heavy construction. When WAPDA completes a provincial work, the provincial irrigation authorities find a number of deficient features in it and refuse to take over the completed work. WAPDA also does not agree with provincial irrigation authorities' viewpoint and consequently there is a dispute between them. WAPDA continues to maintain and operate the works bearing additional costs, which become the responsibility of the federal government rather than of PIDAs. Even after the takeover of Works, the provinces remain over-critical of several aspects of engineering designs, construction quality and operational features of WAPDA's Work. The fact that federal agencies are carrying out provincial water works is also against the spirit of decentralization.

#### **IV. Water Shortage Crisis:**

Pakistan is suffering from the problem of water poverty as a result of the continued drought and lost storage capacity.<sup>12</sup> Its two major dams are losing storage at a dangerous pace and there is no way to recoup the same. Pakistan's population is growing at a rate of three per cent and its water storage capacity is being reduced by one per cent. By this logic, at least four per cent should be added to its present storage to keep the present level of water availability. Pakistan should have created storage equivalent to that of Mangla dam every 10 years to meet its growing needs and replace the lost capacity. By now, Pakistan should have built at least three dams of the size of the Mangla dam and be in the process of building a fourth one by now. But it did not happen. The Mangla dam, which is Punjab-specific, cannot supply water to Sindh. It is too small to meet a fraction of requirement of the country. Tarbela dam, the only storage that has assured water supply, is losing 100,000-acre feet storage capacity every year due to silting up of the lake. It has lost 30 percent of its storage capacity.<sup>13</sup> The existing storage capacity of Tarbela Dam has been decreased by 30 per cent over last 36 years because of sedimentation. Tarbella's original storage capacity was 9.68 MAF, the storage capacity has been decreased to 6.77 MAF in

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<sup>11</sup> The World Bank, *The Irrigation Sector*, (Washington: 1999), p.74

<sup>12</sup> Khaleed Kiani, *ADB Report Outlines Pakistan's Water Woes*, Daily Dawn, Nov 30, 2007

<sup>13</sup> Alok Bansal, Kalabagh, *Bhasha or Skardu - Pakistan's Quest for Mega Dams*, (IPCS: 2005), available at <http://www.ipcs.org/article/pakistan/kalabagh-bhasha-or-skardu-pakistans-quest-for-mega-dams-1741.html>. Internet accessed on Sep 4, 2013.

2010.<sup>14</sup> Over the years water demand has been increasing due to the rise in the cultivated land area and change in cropping patterns. The reasons for the apparent water shortage in the country include:

- The failure to execute any major dam and water-storage project since Tarbela and Mangla dams
- Wastage from reckless seepage and leakages and
- The 1960 Indus Water Treaty that restricted Pakistan's water supply to only three western rivers, Chenab, Jhelum and the Indus
- Changing pattern of global environment and weather is further likely to decrease the availability of fresh water.
- This limited supply is being threatened further by India's Kishan Ganga hydroelectric project on the River Jhelum and the Baglihar hydropower and dam project on the River Chenab, both of which could cause Pakistan to lose thousands of cusecs of water every day. The 450MW dam would cause serious setback to wheat production in Punjab, the biggest wheat-producing province.<sup>15</sup>

As a result there is a grave water crisis within the country; particularly there is disagreement between Punjab and Sindh. The provinces of Sindh and Punjab have been struggling for adequate water supply since long but the struggle has now transformed itself into a serious issue of national importance. The prospects of implementation of the 1991 water accord for equal distribution of water among the provinces are looking bleak, and IRSA is already practically dead because of the lack of water.

## V. Standpoint of Provinces:

The federating units of Pakistan have very acute differences in the sharing of water resources. It is also a major source of conflict of water in Pakistan, which is assuming serious proportions. As the water shortage hit the country, its federating units started behaving like a divided family. For the last many years, accusations and counter accusations have been a hallmark of relation between the provinces: terms like robbing of due share, lower riparian rights violation, misreporting of water data, stealing and cheating, being the common adjectives dominating the communication between them.

Kalabagh Dam issue is a classical example of disharmony among provinces regarding river water sharing. The construction of this dam is the most controversial issue between four federating units of Pakistan.

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<sup>14</sup> Tarbela Dam: Five firms shortlisted for sediment study, available on <http://tribune.com.pk/story/90185/tarbela-dam-five-firms-shortlisted-for-sediment-study/>, internet accessed on Sep 7, 2013

<sup>15</sup> Bilal Hassan, *Fall Out of Baglihar Dam*, "Dawn", 14 Feb 2005.

## **Sindh's Standpoint:**

Sindh complains about its share in the river water and accuses Punjab and KPK of over using water and robbing it of its share. It argues that it does not get due share because the upper riparian provinces overuse the water, a charge denied by KPK and Punjab. Sindh claims that Punjab and KPK are violating its lower riparian rights against the laws and internationally accepted practices and policies.

Sindh generally accuses upper riparians of what it believes to be theft of water, rather than pointing finger at an actual incident of theft. It believes that the river Indus belongs exclusively to it, by virtue of its name (Darya-e-Sindh) and historical water rights of the province (e.g. Sindh-Punjab Agreement of 1945). Thus it maintains that any incident of transfer of water from river Indus (e.g. to Punjab through link canals Chashma-Jehlum and Taunsa-Panjanad) tantamount to theft. Sindh holds that the violation of its lower riparian rights has created a huge water shortage problem in the province, resulting in aggravating its economic and agricultural problems. Sindh also accuses Punjab of stealing water through barrages falling under its territorial jurisdiction. Sindh argues that if the situation is not reversed then it would eventually result in famines and droughts.

Sindhis argue that the yearly rainfall in Punjab is 20 - 40 inches and in Sindh only 4 -12 inches. Furthermore, usable groundwater available in Punjab is 2,500 MAF per year while in Sindh only 3 MAF per year. Some experts believe that Punjab can cultivate its entire land without ever taking a drop of water from any rivers of the Indus system. On the other hand, it would be impossible to do so in Sindh. This shows that Sindh is far more dependent on the river water than the Punjab, yet Punjab continues to divert Sindh's share of Indus waters.<sup>16</sup>

Before partition, there was only one barrage, the Sukkur barrage, on the River Indus built in 1932. In the last 60 years, there are now 19 barrages and 43 canal systems with 48 off-takes on the Indus River System in Pakistan, creating world's largest contiguous man made system of 61,000 km of canals and 105,000 water courses, irrigating 35 million acres of land. Three storage reservoirs were built, Mangla on River Jehlum and Tarbella and Chashma on River Indus, with total storage capacity of 20 MAF. Additionally, 12 link canals were built to transfer water from western rivers to eastern rivers or the tributaries of the River Indus. All of these construction activities other than the two additional barrages in Sindh (i.e., Guddu Barrage and Kotri Barrage) resulted in the benefit of Punjab.

Sindh claims that Punjab has progressively and illegally appropriated more water than its legitimate share, greatly damaging the agro-based economy of Sindh, especially in the years of natural shortage. For its deep distrust, Sindh cites the example of natural water shortage, when Sindh clamors for drinking water while Punjab harvests record and bumper crops.

There is a growing concern in Sindh that if proper measures are not taken to reverse the unfavourable situation for Sindh vis-à-vis Indus River Waters, the following problems will hit

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<sup>16</sup> Kazi A., *Kalabagh Dam – The Sindh Case*, (Hyderabad: Creative Communications, 1998)

the province:

- Problems in agriculture sector
- Loss of coastal land
- Adverse effects on biodiversity
- Health hazards
- Inadequate supply of drinking water
- Destruction of Mangrove forest
- Problems of water transportation
- Salinity
- Pollution of Indus water
- Danger to lakes and wetlands
- Desertification and deforestation
- Devastation of slums

Sindh rejects proposal of any project that would operate to its disadvantage. It is the strongest opponent of the Kalabagh Dam because it claims that:

- Silt deposited in the proposed Kalabagh dam would further curtail the water storage capacity of Manchar Lake and other lakes and of wetlands like Haleji Lake.
- Their share of the Indus water from the Kalabagh will go to irrigate farmlands in Punjab and KPK.
- The Kalabagh site is located in a highly seismic zone near an active fault causing the reservoir water to seep through the fractures and discharge at the lowest point around the reservoir and the Indus River.

### **Punjab's Standpoint:**

Punjab is reluctant to accept any of the accusations leveled against it by Sindh. It defends its case by arguing that:

- About 35MAF of water goes waste into the Arabian Sea every year. It argues that this water can be productively utilized for irrigation. The Punjab also points out over 14 MAF water losses between Sukkur and Kotri barrages.
- The two link canals, Chashma-Jehlum and Taunsa-Panjnad, were built and operated under the Indus Basin Water Treaty, which was signed by the government of Pakistan, not the Punjab.
- It further claimed that Tarbela and Mangla dam were built to provide water replacement of three eastern rivers: Ravi, Sutlej and Biaas, that were given to India under the treaty. This affected around 12 canals of the Punjab, which had a combined capacity of 57,000 cusecs. Mangla dam could not meet their requirements so Tarbela dam was built with a 4.2 million acre feet (MAF) replacement component. This water had to be transferred to

the Punjab and two link canals were built. So, the internationally brokered and recognized Indus Basin Water Treaty guaranteed their perennial operation.

- Punjab needs more water to keep up with the mounting demographic pressures and with its industrial as well as agricultural demands. Punjab believes that the Kala Bagh dam will provide 3600 megawatts of hydroelectric power and 35,000 jobs. Moreover, Punjab views the annual outflow of water into the Arabian Sea as a waste, which it believes, can be used to irrigate Pakistani infertile lands.

### **KPK's Standpoint:**

KPK is strongly opposed to the construction of Kalabagh Dam. "Kala (Black in Urdu) for KPK and Bagh (Garden in Urdu) for Punjabis" is a famous slogan about Kalabagh dam in KPK. The main objections to the dam voiced by the province include:

- The reservoir of the dam will be constructed in the KPK, the dam's electricity-generating turbines will be just across the provincial border in Punjab.
- Fertile cultivable area would be inundated. Large areas of Nowshera district would be submerged.
- A wide area of the province would suffer from water logging and salinity. Building of the dam will lift ground water table of productive area of Mardan, Swabi and Nowshera causing problem of water logging which will impinge on export earning crops. Drainage of adjacent plains of Mardan, Pabbi and Swabi will be badly affected by the reservoir hence resulting in water logging and salinity.
- It is apprehended that historic flooding of the valley of Peshawar including town of Peshawar would be worsened in case of reoccurrence of 1929 flood.
- KPK does not trust the integrity of Federal government with regard to its resettlement plans for the large number of people who will be displaced for construction of the dam. Displacement of Tarbela people is referred as a witness of lack of concern of the central government. Tarbela dam was built in 1970s and the inhabitants of Tarbela even after three decades have not been properly placed.
- Extensive infrastructure including numerous roads, bridges, railway lines would be adversely affected in KPK.

KPK also maintains that the provinces' share in the net profit of hydroelectric power generated in the province is inadequate. KPK government argues that its share in the net profit must be increased because the electricity price has increased over the years. It also complains that WAPDA, a federal agency, did not pay the province its share of the net profit.

### **Baluchistan's Standpoint:**

The province of Balochistan is among the three smaller provinces that have passed resolutions by their assemblies turning down building of Kalabagh Dam. Furthermore, the province also resists this project because it claims that its representatives were not consulted during the deliberations over this project. It believes that the decision on Kala Bagh dam as well as other major issues without developing national agreement are not acceptable as they will subvert national unity. Main objections harbored by the province of Balochistan include:

- It resists the project because its people look at the project as another example of Punjab ascendancy over smaller provinces. They apprehend that with the completion of dam, Punjab will illegally deviate water to water their own lands, keeping other lands waterless. Their stand is fairly clear; they desire site of the dam to be transferred from Mianwali.
- Balochistan does not touch the Indus River straight; nevertheless, the Pat Feeder Canal from Guddu Barrage waters nearly 300,000 acres land of the province. It is feared that the run of water into Balochistan will be reduced after reforging of the Pat Feeder canal, which is part of the project. People of Balochistan are hence opposed to the construction of Kalabagh Dam, as they apprehend more decrease in their share of agricultural water, which is already pretty low.

## **VI. Analysis & the Way Forward:**

The present water crises in Pakistan are due to bad governance, politicization of national issues by the political parties for self-interest, preference of parochialism as against national interest, poor management of the water resources and lack of foresightedness on the part of unrepresentative leadership of Pakistan in the past many years. There is not so much general water shortage in the country, an evidence of which is surplus River Indus water escaping to sea. But the problem that the federating units of Pakistan face is the lack of water storage capacity and the absence of efficient policy making to construct new water reservoirs. There are a few dams in the country, which are inadequate for the required capacity of water storage. About seventy percent of the population of the country is associated with agriculture. Adequate water storage capacity and an extensive network of canals and sub-canals are the main prerequisites of a viable agriculture sector. The lack of water storage capacity is thus a nightmare for the agriculture sector. Pakistan's water demands are multiplying at a rapid pace but the country is confronted with impending dangers of famines, food insecurity and agro-economic malaise.

Water poverty has deepened mutual suspicion among provinces and has given birth to new problems. Every province has its own perception or misperception about the reason of water crisis and it has developed its own mode to coup with the situation. Leaderships in the federal government have been silently observing the growing crisis and had no guts to change the status quo. The foremost reason of water crisis in Pakistan and the resultant disputes over river water sharing is due to shortage of water, especially in summer. There are various reasons of this water shortage. Some claim that its reason is climatic changes, while others believe that the 1960 Indo-Pak Indus Basin Treaty is responsible for it. India diverts the waters of Punjab's three rivers,

which results in water shortage. Sindh claims that water shortage and the consequential famines that it has to face is the result of overuse of River Indus water by the upper riparian provinces.

Shortage of water has produced multidimensional problems. The perceptions of provinces are largely shaped by their paranoia of being robbed off their due share in water resources. They have built certain hypotheses about water crisis that even ignore the root cause of their problems. They have been so blinded by parochialism that they cannot comprehend the fact that their main problem is not water scarcity but lack of water storage capacity. Thus instead of coordinating together to evolve an integrated strategy to address the serious issue of water storage, they blame each other for creating this problem. In this way the provinces are not only wasting their energies but also precious time. By now Pakistan should have constructed multiple mega water reservoirs with electricity generating capabilities, but due to this wrangling of provinces, the country has to depend upon Tarbela and Mangla dams, which are fast losing their efficiency to store water and generate electricity. The country is pushed into severe power shortage and food crisis as a result, because without construction of mega dams, there will neither be hydro-based cheap electricity nor large reservoirs to store water for irrigation.

The poverty of dams in the country is not due to lack of resources but due to lack of willingness among provinces to act like one nation and move the country out of the current crisis. This has resulted in creating new issues that could have been altogether avoided. One of the leading issues of this sort among the provinces is the sharing of river Indus water. Sindh argues that according to historical treaties like Punjab-Sindh Agreement 1945 and International Law recognize its lower riparian rights which are not respected by Punjab and KPK, the upper riparian, who are accused of over using and stealing Sindh's share of River Indus water. On the other hand Punjab and KPK deny the charges leveled against them by Sindh. Punjab argues that the water flowing into the Indian Ocean shall be used for irrigation purposes instead of being wasted. Punjab believes that it is due to the lack of water storage capacity that Sindh is facing water shortage problem, not Punjab's use of Sindh's water.

The other main problem relates to the construction of mega water reservoirs and once again provinces are poles apart on this issue. The main opponent of the construction of dams is Sindh. It claims that the construction of Tarbela dam on River Indus has resulted in shortage of water in Sindh. Sindh maintains that if mega projects like Kalabagh dam are materialized it will result in severe water shortage in the province. Thus interestingly Sindh's point of view, that construction of Kalabagh dam will result in shortage of water, is exactly opposite to that of Punjab's view, which is that construction of mega water reservoirs will solve the problem of water shortage. Thus Kalabagh dam is a classical example of provincial discord over water sharing.

River water management is also in disarray due to presence of various overlapping pieces of legislation. Some of these legislations are not acted upon properly, for example Indus River Accord of 1991, resulting in deepening of crisis. Water management institutions such as IRSA and PIDs have miserably failed to efficiently coordinate policies related to water sharing among provinces. The result is callous mismanagement in water sector and the takeover of provincial water management activities by federal agencies like WAPDA, which is overburdened with such additional tasks.

Nowhere in the world, does water get reduced due to the building of a dam as is argued by the lower riparian Sindh province of Pakistan. Water availability increases with dams but this rationale is yet to be understood in Pakistan. This is mainly due to politicization of an issue of vital national interest by disgruntled politicians for the sake of getting political mileage out of the situation. Every decision-maker knows how urgently a dam is required but no one dares to come out of perceptions built by years of misconception to solve the crisis. The military governments, which are infamous for going about their ambitions unilaterally and making unpopular decisions against all odds, had the best chance to convince people from all the provinces about the need and site of the dam. But instead of taking the lead, the military led governments preferred to follow the already prevailing logic of maintain status-quo and deferred the decision for the next government. However, a status quo can be maintained, but only at the risk of national survival. In the name of building a consensus, successive governments seem to be chasing a mirage. Unable to achieve a consensus, they are opting for either small dams, that do not help improve the overall system, or going for mega projects which do not have pre-feasibility studies like Bhasha Dam in place of Kala Bagh and may be impossible to execute at present. The successive governments in Islamabad have failed to cope with the situation for the fear of losing vote bank in the aggrieved provinces. Their reluctance to take the risk of addressing the issue has resulted in severity of the crisis that is unresolved to date.

The crisis can be resolved by Islamabad through construction of mega water reservoirs on priority basis, by taking all the federating units into confidence. This will bear fruitful results into two major areas, on one hand the issue of shortage of water for irrigation will be successfully addressed and on the other hand the severe power crisis that the provinces are facing will come to an end. By decentralizing water management authority to PIDs and by maintaining a policy of non-interference in the provincial water management, the federal government can successfully resolve many inter-provincial problems especially that of river water sharing. Construction of mega reservoirs of water, institutional reforms, decentralization, strengthening the mechanisms of inter-provincial coordination and a well-articulated water policy can result in a more prosperous Pakistan.

## **RECOMMENDATIONS:**

Based on the above discussion, following is the way out of the current scenario:

1. The federal government shall formulate policy for development of national water and hydropower resources on urgent basis. Since construction of Tarbela in 1976, no major water reservoir has been constructed which has resulted in impending famine conditions. The government shall peruse the goal of constructing major water reservoir realistically by developing consensus among the provinces which may otherwise disrupt the federating units of Pakistan. Despite its feasibility the Kala Bagh Dam has been politicized which needs to be depoliticized. In order to remove apprehensions of the provinces pertinent studies shall be redone by neutral

international experts acceptable to the governments of the opposing provinces.

2. The Water Accord of 1991 clearly defines water rights between the provinces, yet controversies as to its interpretation and implementation do emerge, especially with regard to construction of new storage reservoirs and sharing of shortfalls during the periods of low water availabilities.

This problem has to be solved by:

- Ensuring the water rights of the provinces in accordance with the 1991 Water Accord in its letter and spirit. Lower riparian rights must be recognized and appropriate measures shall be taken to ensure availability of due share of water to the lower riparian.
  - Expanding the installation of an automatic hydro telemetric system so that inflows, outflows, canal withdrawals and water levels at all critical points of the Indus Rivers System, are available to all the provinces and the concerned federal agencies at all times, for reasons of transparency of operation, and to create an environment of mutual understanding and trust.
  - Establish mechanism for conflict resolution of water issues at various levels.
3. Institutional reforms are inevitable to address the contentious issues pertaining to water sector in Pakistan. For this purpose through decentralization as many functions of WAPDA shall be transferred to the provinces as are possible. WAPDA's Water Wing shall continue to perform all inter-provincial water-related functions such as design, construction and operation of large storage reservoirs and hydel development under a more efficient and vigorous organizational system.
  4. With the conversion of provincial government irrigation departments into autonomous bodies "PIDAs" must assume more responsibilities by designing, constructing and operating their own water schemes. Such a step will make the projects more efficient and sustainable and the organizations more responsible and accountable.
  5. There are too many Acts, both at the federal and provincial levels, which have been passed from time to time to cover the water-related enactment needs. For instance, at the federal level, there is the WAPDA Act 1958, IRSA Act 1992 and Environmental Protection Act 1997. At the provincial level, there is Punjab Irrigation Act 1873, Sindh Irrigation Act 1879, NWFP Act 1873, Balochistan Ordinance 1980, Punjab Soil Reclamation Act 1952, Water Users Association Ordinances 1981 and 1982, PIDA Acts of 1997 etc. These laws were appropriately enacted to cater for particular situations spread over more than a century. There is now the need to review, update,

add, delete, and modify various provisions to eliminate duplication and to include new provisions to cover the much-changed conditions and ground realities.

6. In order to improve the effectiveness of the system with distinct lines of responsibility, it is considered desirable to make certain basic institutional improvements. A merger of the following organizations will result in enhanced efficiency:
  - Office of Chief Engineering Advisor.
  - Part of Planning Organization of WAPDA dealing with integrated/overall planning (not the Design Cell)
  - Federal Flood Commission.

Such an organization could be named as “Federal Water Commission”, and should preferably be headquartered in Islamabad and report to the Ministry of Water and Power. The Federal Water Commission will be responsible for:

- All secretariat work to assist the apex Federal Water Council
  - Implementation of the National Water Policy and Strategy.
  - Integrated planning of water-related activities in the fields of Irrigation and drainage works financed by the Federal Government, in addition to Flood Control and Hydropower for optimal and economic use of national water resources.
  - Monitoring functions pertaining to federally financed activities in Irrigation, Drainage, Flood, Droughts and Hydropower Sectors, and overseeing utilization of water resources at the national level, particularly in terms of sub sector-wise prioritization.
7. A high level inter-provincial permanent body shall be created at the federal level, composed of part-time members, to be responsible for all water-resource matters. This apex body may be designated as “Federal Water Council”. The proposed Council would be composed of concerned Ministers/Secretaries of Federal Governments, Provincial Representatives and Stakeholders representatives as Members and may be headed preferably by the Prime Minister or his nominee.

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