

Water crisis and national unity

Outlines

I. Introduction

Thesis Statement: Water

is a lifeline of a country and important natural resource. Shortage of water puts the national security and national unity at risk. It also puts the food security at risk. Pakistan has been facing severe water shortage which has put the national security and national unity at risks as well as food security.

II. History of water crisis in Pakistan

III. Causes of water crisis in the country

- (a) India's role in water crisis
- (b) Lack of construction of new dams
- (c) Rapid population growth and urbanization
- (d) Climate change
- (e) Overuse of water in agriculture sector
- (f) Poor water management

IV. Effects of water crisis in Pakistan

- (a) National unity at risk.
- (b) National economy at risk
- (c) Sectors, agriculture, industry and energy at risk
- (d) Livelihoods in rural areas at risk
- (e) Migration from water scarce areas.

V. Measures to deal with water crisis

- (a) Construction of new dams
- (b) De-siltation of dams
- (c) De-salination of water
- (d) Reforms in water policies
- (e) Recycling of waste water and water metering piracy
- (f) World organization should play their role to prevent India from violation of Indus Water Treaty.

Conclusion

Water is a lifeline of a country and backbone of the economy. Shortage of water puts the economy, national unity, and food security at risk.

Pakistan has been facing water crisis since the last couple of decades. There are many causes of water crisis in the country i.e. India's role in water crisis, no construction of new dams, no de-siltation of already constructed dams, poor water management, lack of recycling and treatment of waste water, climate change, rapid population growth and urbanization, and outdated water policies. Whereas its effects are concerned water crisis has put the national economy and national security at risk, livelihoods of the labour force engaged in agriculture

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have put at risk, Agriculture sector, industrial sector and energy sector has also put at risk. Severe water crisis forced people to migration towards rich water resources areas. It is manageable by taking various measures, world organizations should play their role in water dispute between the two neighbouring countries. Indus River System Authority should play its role to convince the provinces, water policy reforms should be made, measures must be taken, recycling of water, water treatment of waste water and water metering pricing.

Pakistan has been facing water shortage since its inception in 1947. According to the reports of United Nations Development Program and Pakistan Council of Research in Water Resources (PCRWR), Pakistan will face severe water shortage by 2025 for irrigation and industrial sector. According to the report World Bank and Asian Development Bank that South Asian countries will face severe water crisis. A World Bank report, Pakistan faced reduced flow in water from 5000 cubic meter in 1950 to 1000 cubic

meter in 2010, it was further reduced to 800 cubic meter in 2020. According to the report of IMF Pakistan ranked 3rd among the water stressed countries. According to IMF the level of water scarcity settled by 1000 cubic meter. It is to be estimated how Pakistan facing water crisis.

One of the major water crisis in Pakistan is the Indian role in water dispute. The water conflict was started with the partition of South Asian sub continent. At the time of partition Pakistan faced shortage water in flow to Pakistan. Pakistan was allowed to use water from two tributaries, Madhopur from Ravi river and Ferozpur from Sutleg river.

A temporary agreement was signed between the two countries named as "Standstill Agreement" for the period of three months, on 30 Dec 1947. After the lapse of three months the agreement was automatically stand cancelled on 31 March, 1948. On 1 April 1948 India stopped the flow of water to Pakistan, which affected the irrigation land accounts for 5.5%. ~~On 31~~ Pakistan raised this issue

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at Inter Dominion - Accord, held on 3rd May, 1948. India dismissed the Pakistan's stance as a matter of right. Because all the head works at water flow to Pakistan went to Indian side at the time of partition and Pakistan faced severe water crisis.

In 1951, David Lilienthal, who had served as the chairman commission at Tennessee Valley and Chairman of International Atomic Energy Agency, took tour to Pakistan and India for writing articles. One of his articles, he opined, it would be beneficial for two neighbouring countries if they jointly develop commission and operate Indus River System.

After lapse of 9 years and long deliberations president World Bank, Eugene Black, undertaken the matter and reached to a conclusion of the water dispute at Indus Water Treaty. It was signed in 19, Sep 1960 at Karachi between the PM of India, Pandit Jawahar Lal Nehru and Pakistani president Ayub Khan. Under this treaty three

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western rivers, ~~Indus River~~, Indus River, Jhelum River, and Chenab River, were given to Pakistan. Three eastern rivers, Ravi, Satluj and Bias, were given to India. India also allowed to use water from western rivers for irrigation at 1.343 million acre which led to reduce the flow of water to Pakistan.

India constructed dams, Kishanganga dam on Jhelum river and Baglihar dam on Chenab river, which ~~reduced~~ reduced the flow to Pakistan. Pakistan raised this issue in permanent court of arbitration which rejected the Indian stance. It is a clear violation of the Indus Water Treaty of 1960 to ~~construct~~ construct dams on Pakistani rivers, which further reduced the flow of water to Pakistan and left the country severe water shortage.

Lack of dams is one of the most important reasons of water crisis. Tarbela, largest dam at Pakistan, and Mangla dam and other small dams have lost their storage capacity by 95% due to siltation. Non availability of ample dams to store large

amount of water led to water scarcity for Pakistan. First two dams, Terbeli and Mangla, were built and constructed in the tenure of General Ayub Khan. No big dam and water reservoir is constructed from the period of Ayub Khan. According to Indus River System Authority (IRSA), Pakistan received 147 MAF of water but store only 14 MAF and rest of the water 130 MAF gone waste to Arabian Sea. According to an estimate Pakistan loses its water at massive worth of \$5 billion due to non-availability of dams. Balochistan needed 100 dams but only 64 dams have been constructed. 36 are yet to be constructed. Lack of dams led to shortage of water for agriculture and industrial sector. All the provinces facing water severe water shortage owing to lack of dams. It was worst is that no attention was paid to construction of dams even after 50 years. Kala Bagh dam is plagued with politics. Pakistan is leading to further water shortage in future owing to lack of dams.

Rapid population growth and urbanization is also a major cause of water crisis in the country. Pakistan facing population explosion from the last couple of decades. At the time of inception the total population of West Pakistan was 33.3 million and East Pakistan, now Bangladesh was 42 million. According to Pakistan Bureau of ~~Statistics~~ Statistics (PBS) Pakistan's population in 1951, 33 million, in 1961 42 million, in 1971 65 million, in 1981, 84 million, in 1998, 128 million, in 2017, 207 million, and in 2023 it was recorded 241 million. From 1977 to 2023 population increased at rate of 2.6 percent and Pakistan ranked by population from 9th to 5th. From 2017 to 2023, 33 million population increased according to dawn newspaper data. The birth rate of the country is relatively high than their neighbouring countries. Population growth rate has been more than 2.5 percent in last couple of decades. With the increasing population, urbanization increased rapidly for better facilities. According to statistics of dawn newspaper current urban population needs

reached at 37 percent with the increasing growth rate water per capita availability is decreasing rapid. According to IMF Pakistan's per capita water availability reduced from 5600 to 1017. Finally population explosion led to reducing per capita water availability.

Climate change is one of the most significant reasons contributing to water crisis in the country. Due to use of fossil fuels the earth temperature rapid. Energy production is known to be the main source of global warming. It has affected badly all living organisms on the earth planet. It has change the weather pattern. As global warming is leading to extreme weather events, floods, draughts, heat waves and frequent forest fires. According to the statistics of dawn newspaper, in 2010 floods took the lives of more than 1000 people and more than 90 million people affected. Total loss was estimated to Rs. 10 billion dollars. According to dawn, Pakistan is among the top 10 countries vulnerable

to climate change. In 2015, 700 people lost their lives in Karachi due to high temperature of 45°C. In 2017, highest temperature was recorded in 2017 at 53°C in Mahanjo Daro. The devastating floods in 2008 took the lives of more than 1700 people, thousands injured, with the displacement of 8 million people accumulated to 33 million people affected in 2008 floods. According to United Nation total loss and damaged was of 16 billion dollars. According to local experts estimate total loss faced by the country at 30 billion dollars. Water pollution is also an important reason of water crisis in the country. According to an estimate two million gallons of water gone waste due to water pollution. 60 percent of the population of the country living without the facility of clean drinking water. With the using of pollutant water, water borne diseases are spread like malaria, fever and Diarrhea. According to an estimate 60 thousand people are lost their live due to scarcity of clean drinking water. According to an

estimate 54000 people lost their lives due to shortage of clean drinking water.

Poor management is one of the most important reasons of water crisis in the country. According to an estimate more than 90% of the water is used in agriculture sector which is the highest in the world. In response, agriculture shares 23% of the GDP of the country and 40% of the population is engaged in ~~the~~ agriculture as a labour force. In other countries only 70% of the water is used for agriculture sector. Pakistan is using 30 percent more water than other countries due to poor water management and lack of policies regarding water.

According to an estimate 40% of the water is gone waste due to seepage and unpaired at the stream beds. According to Indus Water System Authority (IRSA), Pakistan receives water of 145 MAF but only stores 14 MAF and 130 MAF gone waste due to non availability of water reservoirs in the country. According IRSA, Pakistan losses at

water of Rs 95 billion annually due to lack of storage capacity. Already constructed dams are filled with the sedimentary rock carried by river water. According to dawn, 95% of the storage capacity of dams is lost due to siltation and poor management. There is lack of water treatment and recycling water to save water resources. Israel, a water scarce country, recycles water for trees and irrigation.

Pakistan formulated its first ever water policy in 2018 to save water from being scarce. In this regard all the provinces introduced its policies to save water and use it properly. Further Pakistan has no the facility of water metering pricing. Only 63 percent of revenue (as obtained) is recovered from landowners using water from canals and tube canals.

There are various effects at water crisis. National unity at risk is one of the significant effects. Provinces allege to each other at stealing water of their share. According to Water Accord 1991, a baseline volume of water 144.8 BCM is distributed among the provinces with about 48 percent going to

Punjab 42 percent going to Sindh 7 percent to Khyberpaktunkhaw and 3 percent to Balochistan. Since Pakistan facing severe water crisis. The country introduced three tier formula to distribute water among the provinces. Balochistan and KP were exempted from it.

Punjab claims 7 to 8% of shortage of water and Sindh claims 35 to 40 percent shortage of water. Sindh alleges Punjab of theft water and Balochistan accused of Sindh of not share of its water which is leading to conflict among the provinces. Hence, shortage of water has taken disintegration in the country.

Water crisis has put the national economy at risk. As water is a lifeline of a country and backbone of the economy. The nexus between economy and water is very deep like soul and body. Pakistan agriculture sector contribute ~~13~~ 93% of the GDP of the country and 60 to 70% of the labour force engaged in this sector. As the country faces water crisis, it has put the agriculture sector at risk as well as national economy. At a time Pakistan exported its agriculture

production and earned revenue a lot. But due to water crisis and climate change, Pakistan has not been able to meet its own target. From the last couple of years the country has not been sufficient in agriculture due to water crisis. In 2022, total production of wheat at the country was 26.9 million tons compared to requirement at the country 29.8 million tons. The decrease in production is the outcome of water crisis. In 2022 Pakistan had to import 2 million of wheat from Russia, to meet the needs of the country. In 2023, total production of wheat was 27.9 million but the target of the country was set to more than 30 million. In last year's Holy month a wheat was imported from Russia. One can estimate from these statistics what extent water crisis affects the economy of the country.

Energy sector also affected due to water crisis. Energy is also most important for human to function the industry at the country. The nexus between energy and water is also very deep. Hydro electricity may be produced

from water it is a cheap and clean source of energy production. Pakistan has potential to produce sufficient electricity from water but due to lack of dams the country has been facing energy crisis owing to shortage of water in the dams. Hence, shortage of water has put the energy sector, the backbone of the economy, at risk and leading to the threat to national unity. Industrial sector also has deep nexus with water. Industrial sector also needs water to run, but due to scarcity of water resource it has put the industrial sector at risk which is leading to poor economic growth. Millions of people engaged in agriculture, energy, and industrial sectors, as a labour force. There is a dire need of adequate water to run these sectors. Severe water shortage put these sectors at risk as well as the livelihoods of the millions of people. As 60 to 70% of the labour force engaged in agriculture sector for their livelihoods as well as national economy and national security at risk which led to increased in poverty level in the country.

poverty and unemployment are the major effects of water crisis in the country.

As to percent of the labour force engaged in agriculture sector and a large number of labourers are working in industrial sectors. Water crisis has put these sectors at risk as well as the livelihoods of the labour force engaged in these sectors put at risk. In response, poverty and unemployment increased in the country. In 2003, 7 percent unemployment recorded according to dawn newspaper. 40 percent of the population living in poverty and 9% of the population living below the poverty line. Hence water crisis increased poverty and unemployment in the country which it lead to social issues and disintegration.

Crimes have increased in the country due to increasing poverty and unemployed level. According to dawn crimes increased in major cities, like Karachi and Lahore. AS 6000 cases reported in Karachi alone due to poverty and unemployment. It has increased the social unrest as well as national unity put at risk.

Government of Pakistan should take measures to construct dams to enhance the storage capacity of water. At this time only two big dams are in Pakistan. No big dam was constructed in last more than 50 years. The authorities also did not pay the attention to construct dams due to political instability in the country and polarised politics. Agencies related to water have not paid any attention to deal with the shortage of water. IRSA has been unable to solve the dispute of distribution of water among the provinces. Lack of political will led to lack of construction of dam then water crisis. At this time the country needs more dams to increase the water storage capacity. All political parties and agencies related water should take collective action to deal with the water. It must be constructed new dams.

Another step should take the concerned authorities to de-siltation of rock sediments. According to an estimate 95% of the storage capacity of dams is lost due to siltation of dams. Total capacity of Tarbela dam is 11 MAF while due to siltation it has lost

its storage capacity to almost 6 MAF. One can estimate how the negligence at the government and water related authorities in the country. So they must take measures to de-siltation of dams to up the storage capacity at the dams.

Another step should be taken by the authorities to save the natural water resource for irrigation and industries. The authorities should take measure to de-salination of water to avoid the water crisis in the country. Almost a lot of water is gone waste due to desalination.

Step should be taken to avoid water pollution. Every year 8 million gallons gone waste and is causing water ~~borne~~ borne diseases in the country, an additional burden to the national unity and national security.

The water related authorities should ~~take~~ take measures to recycle the water and water treatment of the used water. Israel, being water scarce country, is recycling the water and uses it for irrigation and parks. Pakistan should learn lesson from to recycle the water. It is also very

to treatment of waste water at the country. It ~~can~~ ^{may} be used for irrigation and parks. So, the federal government and provincial government should be on the same page to deal with the water scarcity, so that the national unity could be saved.

There is a dire need to reforms in existing policies. These policies have loopholes and shortcomings. They are unable to deal with the crisis. New policies should be introduced, according to the current water situation, to deal with the water scarcity in the country.

Pakistan should raise the issue of water conflict and the violation of Indus Water Treaty of 1960 from Indian side. India has constructed illegal dams on Pakistani rivers. India built Kishanganga dam on Jehlum river and Baglihar dam on Chenab river. This is a stark violation of Indus Water Treaty 1960 from Indian side. India is determined to build more dams on Pakistani rivers to reduce the flow of water to Pakistan to make economically weak the country.

In conclusion, Pakistan has been facing severe water crisis. Water is a lifeline of a country and backbone of the economy. ~~But~~ severe water crisis in the country leading to the crisis of national unity and economic crisis. Water crisis in the country is the outcome of the poor water management and overuse of water in agriculture sector. According to an estimate, Pakistan uses 95% of the water resources in agriculture sector which is the highest in the world. Most of the countries use only 10% of the water resources in agriculture. Lack of dams leading to severe water crisis. The country needs to construct new dams to save water and generation. According to IRSD, the country is wasting a worth of Rs 95 billion of water. So there is a need for all the authorities, federal, provinces and water related authorities on the same page to save the national unity and economy of the country.