

Despite Being Vital, Water Scarcity is the Most Neglected Issue in Pakistan.

1. Introduction:

Despite being the most vital resource, water has been mismanaged in Pakistan, which has led to water scarcity, and that too is the most neglected issue within Pakistan. However, with pertinent measures, Pakistan can transform its water scarcity to water security.

2. Water is the most vital resource, yet it is the most neglected in Pakistan.

3. Importance of water for Pakistan:

- i. Dependence of Pakistan's living organisms and non-living things on water.
- ii. Dependence of Pakistan's agriculture on water.
- iii. Dependence of Pakistan's economy on water.

4. Water Scarcity: the most neglected issue in Pakistan:

- i. Outdated water management frameworks despite water scarcity.

ii. Incessant water mismanagement despite water scarcity.

iii. Outdated agricultural practices despite water scarcity.

iv. Over extraction of land water despite water scarcity.

v. Lack of construction of new dams despite water scarcity.

vi. Climate change and glacier loss in the midst of water scarcity.

vii. Pollution of water resources despite water scarcity.

viii. Perpetual water leakages and wastage despite water scarcity.

ix. Lack of transformation to alternate water resources despite water scarcity.

5. Measures Pakistan must take to tackle water scarcity:

i. Update Indus River system Authority and its frameworks.

ii. Build dams and install desalination plants.

6. Conclusion.

In his book, *Governing the ungovernable*, Dr. Ishtat Husain says that Pakistan does not have an issue of water crisis; rather, it has an issue of mismanagement that has led to water scarcity. Water is the most vital resource that is not only a need of living organisms but also a need of non-living organism such as land and air. For living organism, water is a source of continuity of life, and for non-living organism, water ensures their maintenance and usefulness: a piece of land without water is degraded and is of no use. In a similar vein, the importance of water can not be neglected for Pakistan; Unfortunately, Pakistan has neglected the importance of water, which has led to an issue of water scarcity that too is the most neglected issue in Pakistan. Despite being indispensable for the agrarian economy and for the populace, water is the most misused resource in Pakistan, and not much many important measures have been taken for tackling water scarcity. This shows that water scarcity is the most neglected issue in Pakistan. Despite being the most

vital resource, water has been mismanaged in Pakistan which has led to a state of water scarcity. However, with pertinent measures, Pakistan can transform its water scarcity to water security.

Although the primacy of life depends upon water, it is the most neglected issue in Pakistan. Water is imperative for all life process and especially essential for agrarian economies like Pakistan. Yet, the importance of water has been neglected which has resulted in a water crisis. According to Pakistan Council of Research on Water Resources (PCRWR)'s report on "Water levels in Pakistan 2025," Pakistan has been left with less than 950m^3 water reserves, and has been characterised as a water scarce nation. Whereas, at the time of its independence, Pakistan had water levels of 5400m^3 . This staggering decline demonstrates the neglect of water resources in Pakistan. Despite being characterised as a water scarce nation, Pakistan has not taken any major step to secure its

vital water resources. This depicts that in spite of the water resources, Pakistan has neglected it.

The importance of Pakistan water for Pakistan can not be undermined as all the living and non-living organisms of Pakistan depend on water; its agriculture and food security depends on water; and its economy is also dependent on it.

Water is equally vital for living and non-living organisms of Pakistan, which contribute to the beauty, richness, and economy of Pakistan. The living organisms such as ^{Pakistanis} it people and other animals residing in it, and the non-living organisms such as lands, mountain, and air which make up Pakistan's environment and landscape are dependent on water for their life processes and maintenance, respectively. The people make up its social sector and run the affairs of the country; while the pleasant landscape is a source of tourism for the country. According to "World Tourism Organisation" report on "Pakistan's tourism potential 2022", Pakistan can earn upto 10 Billion dollars per year from its magnificent beauty. This depicts their importance for Pakistan

and their dependence on water for utilising their potential.

In addition, ~~Water~~ water is essential for Pakistan's food security and agriculture. Pakistan is an agrarian state, and is one of the major producers of cotton, wheat, and sugarcane in the world. Not only Pakistan utilises these productions for its self but also exports them to the world. According to the "Economic Survey 2024-2025," Pakistan was the fourth largest exporter of wheat and eighth largest exporter of cotton in the world. This agricultural production and massive export is dependent on water for its continuity. Without water, the essential agriculture sector of Pakistan would plummet and would create a state of food insecurity for its own people. This depicts the importance of water for Pakistan's food security and agriculture.

Moreover, Pakistan's economy is also dependent on vital water resources. Water resources are essential for agricultural production and hydrological

power production. These agricultural export contributes significantly to Pakistan's foreign reserves, while the hydro power production reduces its reserves from expensive oil import. In this manner, both production contribute to Pakistan's economy. According to "Economic Survey 2024-2025", Pakistan's 19% of gross domestic production was from agriculture, and Pakistan produced one quarter, 24.7%, of its energy from the hydro power plants. These both sectors contributed immensely to Pakistan's dwindling economic. Without water, Pakistan's economy would be significantly impacted. This demonstrates the importance of water for Pakistan's economy.

Unfortunately, despite being such a vital resource for Pakistan, water has been mismanaged which has led to a state of water scarcity, which is still the most neglected issue in Pakistan.

The application of outdated water management frameworks depict the neglect of water scarcity in Pakistan. The water management frameworks such as Indus water regulation

framework, and national water policy 2005 operates the management of water by Indus Basin Regulatory Authority. Although, the framework was updated in 2018, it is still incompatible with water crisis that Pakistan is facing. The IBRA operates under the Council of common interest, and has been frequently criticised for outdated data, poor telemetry system, and poor coordination. Because of these grievances, smaller provinces accuse IBRA for water mismanagement and not providing designated allocations. In addition, the policy frameworks are not in balance with current needs of Pakistan, especially when it is being significantly impacted by frequent floods. Moreover, these frameworks lack any clause for climate change, and its impact on water resources. Thus, the current frameworks, which are outdated, demonstrate the neglect of water scarcity.

In addition, the mismanagement of water resources in Pakistan despite its scarcity demonstrates its neglect. Pakistan receives water from the Indus Basin system which originates in Himalayas that contribute 67% to the Indus river system. The other

33% comes from rainfall. This Indus river system has been mismanaged since the inception of Pakistan. According to IPRI's report, "Climate change and its impact on Pakistan's water resources 2025", Pakistan receives 145 million acre feet (MAF) water per year and consumes only 70 million acre feet, the rest is either leaked in the course of river flow or wasted at the sea end. This shows that how the water mismanagement has impacted water resources in Pakistan leading to ~~their~~ its scarcity. Therefore, this mismanagement demonstrates the neglect of water scarcity.

Moreover, despite being water scarce, Pakistan still adheres to outdated agricultural practices, showing its neglect for water scarcity. Pakistan is an agrarian country, and agriculture employs 80% of its workforce. The agricultural sector still uses flood irrigation method, and relies on water intense crops such as sugarcane, and rice. According to "Pakistan's organisation for parliamentary services' report: ~~an~~ water scarcity in Pakistan", less than 1% of agricultural land is currently under drip irrigation system, while most of the landowners uses flood irrigation as a primary method for agriculture. This

flood irrigation method and water intense crops amplify the water scarcity that Pakistan is facing. Despite this, not pertinent measures have not been taken. Thus, despite Pakistan's rising water scarcity, its neglect for water scarcity is evident from its practices.

In addition, the over extraction of water from land demonstrates the neglect for water scarcity in Pakistan. Due to declining river water resources, agricultural owners have shifted to land water extraction. According to World Bank's "Climate and Country development report 2025", Pakistan's land water extraction rate is 55 million acre feet, while the recharge rate is only 45 million acre feet, leading to a decline of 1 meter of land water reserves per year, especially in Punjab. This reports echoes that in spite of taking pertinent solutions for the looming water crisis, Pakistan has shifted to land water reserves, and is damaging them at a significant pace, clearly showing its neglect for water scarcity, even in the face of water crisis.

Moreover, the lack of construction of new dams, even in the face of looming water crisis, shows Pakistan's neglect for water scarcity. Pakistan has not built any major dam in the last 50 years, despite the continuous declining of water reserves. Its major dams Tarbela and Mangla have lost about 30% of their water capacity due to sedimentation and silting. According to "International Organisation on Large Dams", China has built more than 3000 plus dams in the last 50 years, while Pakistan has only built minor dams that too for its hydrological use such as Neelum hydro power project in 2018. Dams are very essential for both water storage and flood management. Despite Pakistan's 33 days water storage and ~~continuous~~ frequent floods, it has not built any major dam in the last 50 years. This demonstrates Pakistan's neglect for water scarcity.

Similarly, pollution of water reservoirs in the face of water scarcity depicts Pakistan's neglect of water scarcity. Pollution is a major harm to both the land and water resources. Despite facing water crisis and searching water resources through waste management, Pakistan has not taken any significant step in this direction. According

to Pakistan Council of Research on Water Resources, Pakistan's 87% of water reservoirs are polluted with bacteria, nitrate, arsenic, and sulfate, and these resources are non-consumable. While Sindh Solid Waste Management Board Authority's (SSWMB) "Karachi Waste Management report 2015" claimed that less than 1% of industries treat their wastewater before dumping into rivers in Karachi. Both of these reports show that despite water scarcity, pollution of water reservoirs is continuous at a massive scale. Thus, the rising pollution, even in the face of water scarcity is a testament of Pakistan's neglect of its water crisis.

In addition, the perpetual water wastage and leakage despite water unavailability shows Pakistan's neglect of water scarcity. Pakistan's irrigation system is the largest in the world; most of it is colonial built, with very little renovation. This outdated system has lived more than its life, and is a source of continuous leakage of water. According to IPRI's "Climate Change and its Impacts on Water Resources 2015", Pakistan's water efficiency is only 39%, that means Pakistan loses 61% of the water it receives. In comparison, the western

agricultural countries have a water efficiency of about 70%. Moreover, Pakistan wastes 20-25 million acre feet water annually to sea only from the Guddu Baradge in Sindh. This demonstrates how Pakistan is neglecting its water scarcity. ~~even in the face~~

Moreover, the lack of incentives for transformation to alternate water resources, despite the rise of water scarcity, shows Pakistan's neglect of water scarcity. Water scarcity is a global issue; many countries are facing it, and are securing their water reservoirs by transitioning to alternate water resources namely planting desalination plants. For example, Kingdom of Saudi Arabia is producing 50% of its water from desalination plants at its eastern coast, while Pakistan does not have any major desalination plant that can fulfill its water needs. Because of the lack of incentives, ~~and~~ for alternate water resources and the mismanagement of current water resources, Pakistan's water level is further deteriorating. This demonstrates that even in the face of water scarcity, Pakistan is neglecting it without taking any ^{reactive} ~~proactive~~ measures.

It has been established from

The previous ^{discussion} ~~decision~~ that water scarcity is the most neglected issue in Pakistan. However, as water is the most vital resource, its scarcity should be tackled with building dams, installing alternate water projects, and updating existing frameworks for a sustainable future.

The Indus River System Authority should be updated to resolve the water crisis that Pakistan is facing. The current IRSA framework has outlived its life, and it should be updated with climate change provisions and technological integration. For instance, Singapore's NewWater project is handled by Singapore's water regulating authority, which continuously update its framework every five years to keep it relevant to the contemporary needs; moreover, it has ~~technology~~ integrated in the project, due to which Singapore is massively treating its wastewater and is recycling it for domestic and industrial usage. Pakistan should also follow such global successful models to curb the water scarcity it is facing.

In addition, building large dams and installing desalinating plants will

also help Pakistan in achieving water security. Dams are large reservoirs that store large amount of water, while desalinating plants convert sea water to fresh water by removing excessive salts from it. China, in the last 50 years, has built more than 3000 dams, while Middle Eastern countries such as KSA, UAE, Bahrain, and Qatar are fulfilling their water needs with desalination plants. Although, Pakistan has recently signed an agreement with the European Union for a renewable powered desalination plant, it needs more such plants to fulfill its needs. In addition, Pakistan should also build a provincial consensus on the need of dams such as Kala Bagh dam. In this manner, Pakistan can tackle its water scarcity.

In Conclusion, despite being water scarce, Pakistan has continuously mismanaged this vital resource and has neglected this issue the most. Due to the incessant mismanagement of water resources since Pakistan's inception, Pakistan has become "water scarce with levels falling rapidly below the adequate levels. In addition, Climate crisis has expediated this process. However, resolving the water

crisis is not an insurmountable task. With effective ~~to~~ measures and strategic vision, Pakistan can turn its water scarcity to water security. ^{for this} Pakistan should build more dams and plant desalination projects to adapt to the water scarcity it is facing. These measures are practical, and are among the successful models that water scarce countries have adapted globally. In addition, Pakistan's water crisis is not because of low water levels but mismanagement of this vital resource. With effective management, Pakistan can become a water secure nation, as water is life not only of its agriculture and economic sector, but also of all the living ^{organisms} and non-living ^{things} ~~organisms~~ residing within it.