World Water Day 2025
On the theme of
"Glacier Preservation"
Held on April 12, 2025

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World Water Day 2025 centered on the urgent theme of **Glacier Preservation**, spotlighting the global significance of glaciers in sustaining freshwater resources for drinking, agriculture, clean energy, and ecosystem stability. The event emphasized the accelerating retreat of glaciers due to climate change, underscoring the imperative to reduce greenhouse gas emissions and implement sustainable meltwater management strategies.

Speakers highlighted the profound impacts of glacial melt—ranging from unpredictable water cycles to increased risks of floods, droughts, and sea-level rise. The call to action was clear: protecting our frozen water reserves is a survival strategy for humanity and the planet.

The Pakistan Engineering Congress convened a distinguished panel of experts specializing in water conservation and application. Following nine research papers were presented, contributing valuable insights into innovative approaches, technological interventions, and policy frameworks to safeguard water resources in the face of climatic challenges.

- "GMRC-WATER'S CONTRIBUTION TO GLASIER MONITORING IN PAKISTAN"
- "CLIMATE CHANGE & FRESH WATER SUPPLY OF PAKISTAN"
- "VULNERABILITY CHALLENGES TO HIGH ALTITUDE WETLANDS AND ITS FEEDING GLACIERS IN PAKISTAN REGARDING CLIMAGTE CHANGE"
- "ROLE OF DIAMER BASHA DAM (DBD) ON FOOD, ENERGY SECURITY AND CLIMATE CHANGE MITIGATION OF PAKISTAN"
- "INDUS TELEMETARY PROJECT – A PROJECT FOR TRANSPARENT DISTRIBUTION OF PROVINCIAL SHARES"
- "GLACIAL MILTING IN PAKISTAN AND THE CONSEQUENT TRIBULATIONS FOR THE COUNTRY'S EXPOSED POPULATION"
- "USING RAW GROUND WATER FOR THE DEVELOPMENT OF ORGANIC MINERAL WATER"
- "HEAVY METAL POLLUTION IN MANAGROVES STANDS ALONG PAKISTAN COASTLINE"
- "DECADAL TREDS IN SNOW COVER DYNAMICS ACROSS THE INDUS BASIN: INSIGHTS FROM MODIS NDSI ANALYSIS (2008-2018)"

Honorable Mr. Kazim Ali Pirzada, Minister for Irrigation, graced the occasion as Chief Guest. Following the presentation of research papers, an engaging question-and-answer session unfolded, fostering thoughtful dialogue between speakers and attendees. The event concluded with insightful remarks by the Chief Guest, after which commemorative shields from the Pakistan Engineering Congress were presented to the distinguished speakers.

Address of Welcome

By

Engr. Ch. Muhammad Arif, President
Pakistan Engineering Congress

On the eve of

World Water Day 2025

On the theme of

“Glacier Preservation”

Welcome Address

By

Engr. Ch. Muhammad Arif

President Pakistan Engineering Congress

On World Water Day, 2025

On the theme of "Glacier Preservation"

Honorable Chief Guest
Distinguished Delegates,
Executive Council Members,
Fellow Engineers, Ladies & Gentlemen,

Assalam-o-Alaikum!

It is truly an honor and privilege to welcome you all here today as we come together to commemorate World Water Day 2025 which infact falls on 22nd March but has been rescheduled for today due to Holy Ramdan.

Since 2005, Pakistan Engineering Congress has been proudly observing this important day, adopting global themes that call for attention to fundamental water issues. This year, the theme is "Glacier Preservation," a pressing subject that highlights the sustainable management of water resources, the promotion of conservation, and the protection of these vital reserves.

Ladies & Gentlemen!

Glaciers, known as "rivers of ice," are not only awe-inspiring natural wonders but also significant to the planet's ecological balance. They serve as one of the largest reservoirs of freshwater on Earth, storing an astounding 69% of the world's freshwater. Communities living downstream of glacier-fed rivers rely heavily on these melting glaciers during warmer months for agriculture, drinking water, and hydropower. Glaciers are found in all major mountain ranges around the globe. The biggest glaciers are found in Alaska and Patagonia. As we talk of Pakistan, there are over 7,000 glaciers in the northern regions of Pakistan in Gilgit-Baltistan and Khyber Pakhtunkhwa.

Ladies & Gentlemen!

Glaciers play an imperative role in regulating the Earth's climate through the albedo effect, reflecting sunlight and helping to cool the planet. However, global warming has placed these icy giants under severe threat, accelerating their melting and creating a feedback loop of rising temperatures. This loss poses serious risks, from water scarcity and disrupted ecosystems to sea-level rise and intensified climate change impacts.

But glaciers are more than just environmental treasures; they hold profound economic, cultural, and even spiritual value. They attract millions of tourists and are deeply woven into the traditions and beliefs of many communities worldwide.

Ladies & Gentlemen!

I would say, the fight to preserve glaciers is a fight for life on Earth. These icy giants are more than a symbol of nature's beauty—they are critical to sustaining our planet's ecosystems, economies, and communities. As we witness their alarming

decline, the time for complacency is over. Every individual, organization, and nation has a role to play in safeguarding these natural treasures for future generations.

On this occasion, let us pledge to take meaningful actions—big and small—to combat climate change and protect our glaciers. Whether it is advocating for sustainable practices, supporting conservation efforts, or simply making environmentally conscious choices in our daily lives, every step counts to safeguard this precious resource for future generations.

Kindly remember, protecting glaciers is not merely an environmental responsibility; it is an investment in humanity's future. Together, we can preserve these majestic rivers of ice and ensure that their legacy endures for generations to come

Ladies & Gentlemen!

Today, I am pleased to share that the Pakistan Engineering Congress has curated 9 insightful papers by distinguished speakers to address this important theme. I extend my heartfelt appreciation to the authors for their dedication and contributions, which will advance our understanding and inspire action for this cause.

On this World Water Day, let us pledge to do our part—working together to preserve our glaciers and ensure clean water access for all.

Thank you!

-: Pakistan Paindabad :-

Address

By

The Chief Guest
Honorable Mr. Kazim Ali Pirzada,
Minister for Irrigation, Punjab

On the eve of

World Water Day 2025

On the theme of

"Glacier Preservation"

Address

By

The Honorable Mr. Kazim Ali Pirzada,
Minister for Irrigation, Punjab

On World Water Day, 2025

On the theme of "Glacier Preservation"

Respected members of the Pakistan Engineering Congress,

Esteemed Guests,

Ladies, and Gentlemen!

Assalam-o-Alaekum!

Good Morning and thank you for the honor of being here as your Chief Guest on this remarkable occasion of World Water Day 2025. Today, we gather not only to celebrate the irreplaceable resource that sustains all life "The Water", but to also shine a spotlight on an important issue that demands our collective action, that is Glacier Preservation.

As we look around the room, we are reminded of Pakistan's unique geographical blessings, home to the mighty Karakoram, Himalayas, and Hindu Kush ranges, boasting some of the world's largest glaciers outside the polar regions. These "Water Towers" of Asia serve as the lifeblood for our rivers, agriculture, industries, and, indeed, for millions of lives downstream. Yet, these glaciers, our natural reservoirs of fresh water are under severe threat.

Climate change has unleashed unprecedented challenges. Rising global temperatures have accelerated glacial melt, causing erratic water supplies, increased risks of glacial lake outburst floods (GLOFs), and threatening the delicate ecosystems that depend on these icy giants. For a water-stressed nation like Pakistan, the consequences are dire, as we face growing water scarcity, reduced hydropower potential, and challenges to food security.

Ladies and gentlemen!

This is a call to action—urgent, collective action. We cannot control nature, but we can control our response to its changes. The preservation of glaciers demands a multi-faceted approach. It starts with "mitigation, adaptation, and awareness". Allow me to outline a few key priorities:

Ladies & Gentlemen!

To slow glacier melt, we must act decisively to curb greenhouse gas emissions. This requires transitioning toward renewable energy sources, promoting energy efficiency, and reforestation efforts. Pakistan's own initiatives are commendable in this direction.

Efficient use of our water resources is vital. Engineers, scientists, and policymakers must work together to modernize our irrigation systems, develop water storage infrastructure, and minimize waste. Every drop saved upstream means resilience downstream.

Communities living near glacier-fed regions must be empowered through knowledge and tools to manage and adapt to the risks of glacial melt. Public awareness campaigns can foster environmental stewardship at all levels.

Ladies & Gentlemen!

Glacier preservation is a global challenge that transcends borders. Pakistan must strengthen partnerships with neighboring countries, leveraging shared knowledge and resources to protect the Himalayas, Karakoram, and beyond.

As engineers, policymakers, and citizens, you hold the expertise, resources, and influence to spearhead this mission. Pakistan Engineering Congress, with its rich legacy of driving innovation and progress, is uniquely positioned to lead the charge in glacier preservation. Together, we can turn challenges into opportunities—developing sustainable technologies, fostering innovation, and leaving a legacy of resilience for future generations.

Ladies and gentlemen!

The fate of our glaciers is intertwined with the future of our nation. Let us make a solemn commitment today—a commitment to act, to innovate, and to safeguard the lifelines of our rivers, our agriculture, and our people. Let us be the torchbearers of change in preserving the icy wonders that fuel our world.

On this World Water Day 2025, let us not just celebrate water but take a stand to protect its very source “our majestic glaciers”. For in their preservation lies the promise of life, prosperity, and hope.

Thank you.

-: Pakistan Paindabad :-

Glimpses
Of
World Water Day 2025

World Water Day 2025 on the theme of "Glacier Preservation" Commemorated at Pakistan Engineering Congress Headquarter on Saturday April 12, 2025



Engr. Muhammad Ammar Member Executive Council Conducting the Proceedings



(From Left) Engr. Dr. Javed Iqbal Secretary-PEC, Engr. Ch. Muhammad Arif President-PEC, Chief Guest Honorable Mr. Kazim Ali Pirzada, Minister for Irrigation Punjab, Engr. Muhammad Ammar Joint Secretary-PEC



Engr. Ch. Muhammad Arif President-PEC Presenting Welcome Address



Chief Guest Honorable Mr. Kazim Ali Pirzada, Minister for Irrigation Punjab addressing the audience

Glimpses of Audiences





Glimpses of Audiences





Glimpses of Audiences





Questions / Answers Session











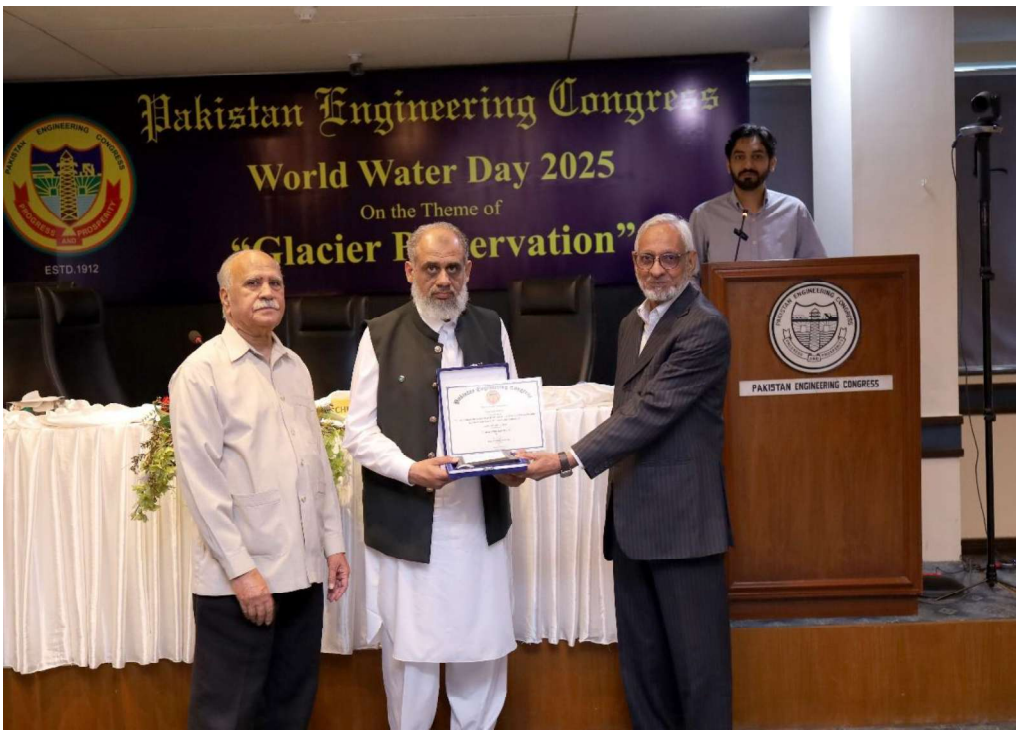
(From Right) Engr. Ch. Muhammad Arif President-PEC, Chief Guest Honorable Mr. Kazim Ali Pirzada presenting Pakistan Engineering Congress Shield to Syed Hammad Ali for his paper on "GMRC-WAPDA's Contribution to Glacier Monitoring in Pakistan"



(From Right) Engr. Dr. Rana Akhtar Ali Chairman Technical Session and Engr. Riaz Ahmad Khan Co-Chairman of the Technical Session presenting Congress Shield to Engr. Riaz Nazir Tarar for his paper on "Climate Changes & Fresh Water Supply of Pakistan"



(From Right) Engr. Dr. Rana Akhtar Ali Chairman Technical Session and Engr. Riaz Ahmad Khan Co-Chairman Technical Session presenting Congress Shield to Ms. Javeria Faisal for her paper on "Vulnerability Challenges to High Altitude Wetlands and its Feeding Glaciers in Pakistan Regarding Climate Change"



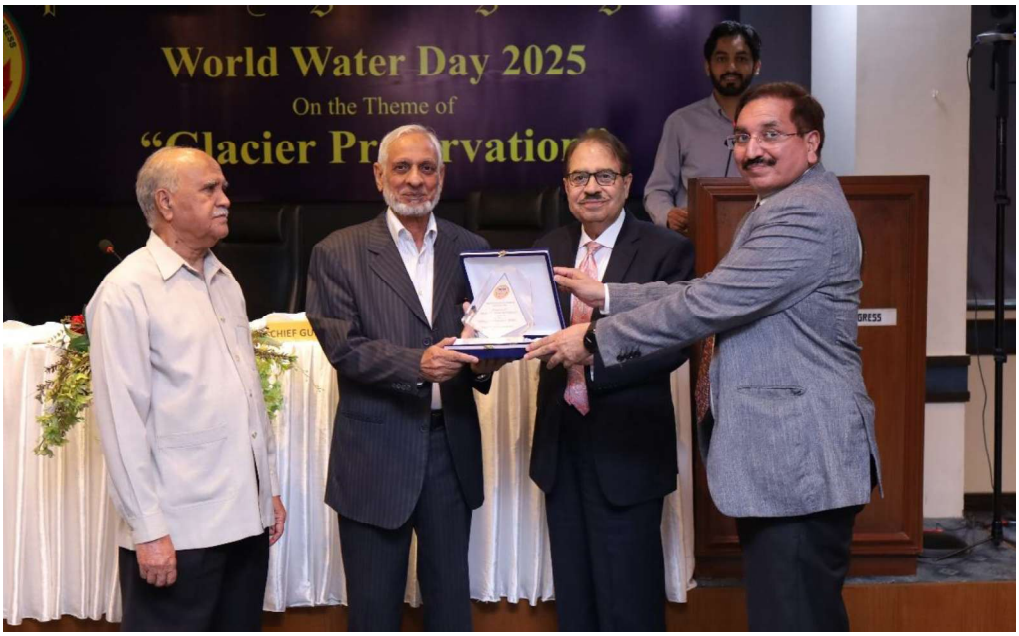
(From Right) Engr. Dr. Rana Akhtar Ali Chairman Technical Session and Engr. Riaz Ahmad Khan Co-Chairman Technical Session presenting Pakistan Engineering Congress Shield to Engr. Zahid Majeed for his paper on "Role of Diamer Basha Dam (DBD) on Food, Energy Security and Climate Change Mitigation of Pakistan"



(From Right) Engr. Dr. Rana Akhtar Ali Chairman Technical Session and Engr. Riaz Ahmad Khan Co-Chairman Technical Session presenting Congress Shield to Engr. Dr. Muhammad Riaz for his paper on "Indus Telemetry Project – A Project for Transparent Distribution of Provincial Shares"



(From Right) Engr. Dr. Rana Akhtar Ali Chairman Technical Session and Engr. Riaz Ahmad Khan Co-Chairman Technical Session presenting Pakistan Engineering Congress Shield to Mr. Khurram Saleem for his paper on "Glacial Melting in Pakistan and the Consequent Tribulations for the Country's Exposed Population"



(From Right) Engr. Dr. Javed Iqbal Secretary-PEC, Engr. Ch. Muhammad Arif President-PEC and Engr. Riaz Ahmad Khan Co-Chairman of the Technical Session, presenting Pakistan Engineering Congress Shield to Engr. Dr. Rana Akhtar Ali Chairman Technical Session



(From Right) Engr. Dr. Javed Iqbal Secretary-PEC, Engr. Ch. Muhammad Arif President-PEC presenting Pakistan Engineering Congress Shield to Engr. Engr. Riaz Ahmad Khan Co-Chairman of the Technical Session, Dr. Rana Akhtar Ali Chairman of the Technical Session