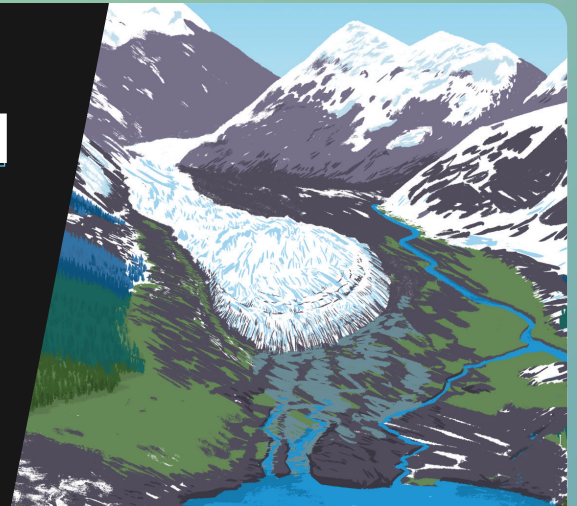


GLACIER PRESERVATION IN PAKISTAN:

Challenges, Strategies and the Way Forward



INTRODUCTION

- **World Water Day 2025:** Focused on Glacier Preservation, highlighting the importance of glaciers as freshwater resources.
- **Earth Hour 2025:** Promoted energy conservation and climate change awareness, aligning with glacier preservation efforts



IMPORTANCE OF GLACIER PRESERVATION

- ❖ Glaciers are playing a pivotal role in sustaining global water security and enhancing the resilience of ecosystems and human communities against the adverse impacts of climate change.
- ❖ Pakistan's Himalayan and Karakoram glaciers serve as essential sources of freshwater for the Indus River Basin and also playing a crucial role in sustaining water availability for drinking, irrigation and hydropower generation.
- ❖ Melting glaciers pose risks such as glacial lake outburst floods (GLOFs) and long-term water scarcity.

OBJECTIVES OF THE WORKING PAPER

1.

Highlight the role of glaciers in Pakistan's freshwater supply.

2.

Present strategies for glacier preservation.

3.

Utilize Earth Hour and World Water Day to promote glacier protection.

IMPACT OF CLIMATE CHANGE



Climate change accelerates glacier melting, increasing the risk of GLOFs and altering river flow patterns.



The Indus River, heavily reliant on glacial melt, faces significant challenges due to rising temperatures and increased water demand.

ONGOING PROJECTS

- **Scaling-up of GLOF Risk Reduction:** A project by the Government of Pakistan, UNDP, and Green Climate Fund to reduce GLOF risks and support traditional water conservation methods.
- **Glaciers to Farms Program:** An ADB initiative to support sustainable water use and food security in Pakistan and other regions.

MITIGATION STRATEGIES



Climate Change Mitigation: Transition to renewable energy, enhance energy efficiency, and align with international climate agreements.



Community-Based Adaptation: Improve water management systems, build local capacity, and implement early warning systems.



Nature-Based Solutions: Restore riparian zones, promote traditional glacier preservation methods, and construct disaster risk reduction infrastructure.

WAY FORWARD

• An integrated strategy that combines community-driven initiatives, policy reforms, and scientific advancements is crucial for addressing glacier-related challenges.

• Prioritize climate change mitigation, adaptive water resource management, and local resilience.

• Allocate resources toward nature-based solutions, advanced early warning systems, and eco-friendly tourism to safeguard fragile glacier ecosystems.