



DRY WINTER IN KASHMIR - GS I AND GS III MAINS

Q. The whole of Jammu and Kashmir and Ladakh have remained largely without rains or snow this winter. Discuss the implications of dry winter of Jammu and Kashmir on the local socio-economic demographics. (15 marks, 250 words)

News: *Why Kashmir and Ladakh are without snow this winter, its implications*

What's in the news?

- One of Kashmir's main winter tourism attractions, Gulmarg, has been bereft of snow this season.
- This has led to a plunge in the flow of tourists and severely hitting the business of ski resorts.

Key takeaways:

1. Existing pattern:

- Winter precipitation in Jammu and Kashmir, as also Ladakh, is mainly in the form of snowfall.
- Normally, the region gets its first snowfall in the first half of December and then through most of January.

2. Deficit Rainfall in winter:

- The whole of Jammu and Kashmir and Ladakh have remained largely without rains or snow this winter.
- Ladakh has had no precipitation at all in December or January.
- While snowfall in the region has been showing a declining trend in recent years, this season is remarkable.

Reasons behind the Dry Winter in Jammu and Kashmir:

1. Deficient Winter Precipitation:

- Jammu & Kashmir and Ladakh experienced an 80% rainfall deficit in December and 100% in January, attributing it to the dry winter.

2. Role of Western Disturbances:

- Declining frequency of Western Disturbances, the main source of winter precipitation, contributes to decreased snowfall in the region.

3. Temperature Rise:

- Rising temperatures, particularly in elevated areas, exacerbate the decline in snowfall, pointing towards the impact of climate change.

4. El Nino Influence:

- The persistent El Niño event in the Pacific Ocean may be an additional factor affecting the global atmospheric circulation, contributing to precipitation deficits.



Implications of Dry Winter in Kashmir:

Short-Term Consequences:

1. Tourism Downturn:

- The absence of snow in Gulmarg has led to a significant decline in tourist arrivals, impacting the local economy and ski resorts.

2. Forest Fires and Agricultural Drought:

- Dry spells can result in an increase in forest fires and agricultural drought, adversely affecting crop production.

Long-Term Challenges:

1. Hydroelectricity Generation:

- Reduced snowfall poses a threat to hydroelectricity generation in the region.

2. Glacier Melting:

- The decline in snow cover may accelerate glacier melting, contributing to long-term environmental changes.

3. Drinking Water Supply:

- Scanty snowfall implies minimal groundwater recharge, posing challenges for the region's drinking water supply.

4. Agriculture and Horticulture:

- **Impact on Winter Crops:** Winter crops crucial for the local economy, especially horticulture, face a decline in yields due to the absence of steady moisture from winter snow.
- **Reduced Apple and Saffron Yields:** Apples and saffron, vital components of the local economy, witness adverse effects on yields.

5. Soil Erosion:

- Dry, exposed soil is more vulnerable to erosion by wind and water, degrading land quality and agricultural productivity.

6. Groundwater Depletion:

- Limited snowmelt means less water seeps into the ground, leading to shrinking groundwater reserves and potential water scarcity for drinking and agriculture.

WAY FORWARD:

1. Policy Interventions:

- Development and implementation of climate-resilient policies to address the impacts of changing precipitation patterns, incorporating scientific research and community input.

2. Technology Adoption:

- Investment in innovative technologies, such as snowmaking, to mitigate the impact on winter tourism and related sectors.

3. Community Awareness:

- Public awareness campaigns to educate communities about climate change and its implications, fostering adaptive practices at the grassroots level.



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4. International Collaboration:

- Collaboration with international organizations to share knowledge, expertise and resources in adapting to and mitigating the effects of climate change.

It is important to note that there is no single solution to the problem of the lack of snowfall in Kashmir. A comprehensive approach that addresses the economic, environmental and social impacts of this issue will be necessary.

