



Cloudburst, Hail Gun Technology, and Increasing Lightning Strikes: A Human-Induced Natural Calamity?

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Abstract: In recent years, cloudbursts in Himachal Pradesh, Uttarakhand, and other hilly regions have become alarmingly frequent, often resulting in devastating destruction to life, property, and agriculture. Simultaneously, lightning strikes in the plains of Bihar and Uttar Pradesh are rising to dangerous levels. These phenomena, once rare, are now increasingly common and seem closely linked with human interventions in natural systems. This paper discusses possible causes behind this environmental destabilization, including the controversial use of hail guns, unregulated exploration of virgin glacier zones, and unchecked military-industrial atmospheric pollution. While research is claimed to be "ongoing", there is evidence that points toward anthropogenic actions knowingly triggering natural disasters. This paper raises critical questions and suggests an urgent need for re-evaluating human behavior toward nature.

Index Terms – Cloudburst, Hail gun technology, Lightning Strikes

1. INTRODUCTION

Once considered rare events, cloudbursts and lightning-induced fatalities have become disturbingly frequent in India's hilly and plain regions alike. Farmers, once confident and hopeful, now live in fear during the monsoon season. Traditional confidence has been replaced with anxiety. This shift is not just climatic but socio-psychological as well. We must ask-why are these events increasing?

2. The Cloudburst Phenomenon and Its Impact

A cloudburst is an extreme amount of precipitation in a short period, leading to flash floods, landslides, and widespread destruction. While these events have natural triggers, recent patterns point toward unnatural acceleration.

Impact:

- Destruction of homes and roads
- Crop failure
- Landslides and loss of life
- Displacement of communities

3. Use of Hail Guns and Atmospheric Manipulation

In apple-producing regions such as Shimla, Kinnaur, and parts of Jammu, hail guns are being used increasingly to prevent hail storms from damaging apple crops.

Working of Hail Gun:

- A long vertical pipe (cannon) fires a mixture of chemicals (like silver iodide or acetylene).
- The explosion in the sky supposedly breaks hail-forming clouds, converting hail into rain.

Possible Side Effects:

- Disruption of natural cloud movement
- Displacement of heavy clouds to neighboring regions
- Cloud overloading in unintended areas, potentially leading to cloudbursts
- Artificial manipulation interfering with localized weather balance

4. Lightning Strikes in the Plains: An Unnatural Surge?

Bihar and Uttar Pradesh are witnessing a surge in lightning fatalities, a phenomenon that was extremely rare a few decades ago.

Probable Reasons:

- Increased atmospheric ionization due to pollution
- Excessive urbanization and heat islands
- Emissions from military activities and high-altitude chemical releases
- Loss of natural vegetation and conductance imbalance

5. Uncontrolled Human Entry in Virgin Glacial Zones

Glaciers once untouched and revered are now being extensively explored for research, tourism, and military operations.

Concerns:

- Destabilization of glacial structures
- Vibrations from equipment or military activities
- Disruption of natural water cycles
- Contamination from chemical residues and plastic

Despite research missions, the only recurring findings are:

- Glacier retreat data
- Melting rates
- Predictions of glacial collapses

No actionable solutions to **reverse** or **heal** this damage have emerged yet.

6. Nature's Self-Healing Capacity and Our Disruption

- There is a belief supported by indigenous wisdom and environmental studies that nature can heal itself, but only if left undisturbed. However, modern actions such as:
 - War games and nuclear testing
 - Constant air and ground pollution
 - Deforestation for rapid infrastructure
 - Overuse of chemicals in agriculture are pushing nature beyond its recovery limits.
- Traditional practices also highlight how deeply humans once understood ecological balance. For example, in earlier times, tree plantation was carried out with careful planning specific locations were chosen and saplings were planted at an adequate depth. This ensured that trees developed strong roots and bonded firmly with the soil. In contrast, many of today's naturally grown or superficially planted saplings appear to survive but lack sufficient depth and root strength, making them vulnerable to soil erosion, landslides, and premature decay. This weakening of natural vegetation cover further destabilizes fragile hilly ecosystems, reducing their resilience against cloudbursts and heavy rainfall.

7. Discussion: Are We Ignoring the Known Truths?

The biggest tragedy is **not ignorance but denial**. Policymakers, scientists, and technocrats **know** the sources of these calamities but often take refuge in vague statements like "research is ongoing".

Hard Truths:

- Cloudbursts are not just a natural phenomenon anymore they're **exacerbated by human interference**.
- Lightning is not just "bad luck" it's a symptom of atmospheric imbalance.
- Hail gun usage, glacier explorations, and atmospheric blasts are **direct interventions** in delicate climate systems.

8. Conclusion and Recommendations

Conclusion:

Nature's balance has been disturbed not by accident, but by deliberate human action. The use of hail guns, interference in untouched zones, and the reckless exploitation of natural resources are all contributing to a fragile and explosive atmosphere.

Recommendations:

1. Strict regulation of hail gun usage and evaluation of long-term impact
2. Ban on military and non-essential exploration in glacier zones
3. Natural buffer zones to be restored in hilly and forested areas
4. Public education on the climate-nature relationship
5. Encourage indigenous environmental knowledge systems
6. Halt unnecessary atmospheric chemical releases under "weather control" technologies

9. References

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