Dust Storm Proves Catastrophic

What is the issue?

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- Dust-storms, thunderstorms, and lightning at many places in northern, central and eastern India killed as many as 100 people in 1 day.
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- While the weather events are common around this time of the year, the number of causalities was unusually high in the current storm.
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What had happened?

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- Rainstorms and dust-storms arise from similar meteorological conditions.
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- They are almost always preceded (caused) by a spell of intense heat – the affected areas indeed had heat-wave like conditions lately.
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- Thunderstorms or hail occur when the atmosphere has moisture, and dust-storms occur when moisture is absent.
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- Indian Meteorological Department (IMD) routinely issues alerts and the current weather events too, had been predicted, and warnings were issued.
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- **The Factors -** Such storms occur due deviation from the normal temperature difference (locally) between the upper and lower atmosphere.
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- Moist easterly winds from the Bay of Bengal reached up to Himachal

Pradesh, which was also receiving dry winds from the north-westerly direction.
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- These two systems destabilised the equilibrium between the upper and lower layers of atmosphere – making it conducive for the thunderstorm.
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- The final trigger, however, is the development of a large scale air-circulation system that developed over Rajasthan a couple of days earlier.
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Why so many death?

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- While it seems odd, a large number of deaths over a few days have been reported earlier too, like in the June 2016 lightening – which killed over 300.
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- Notably, lightning is the biggest killer in India among natural calamities and accounted for as much as 2641 causalities in 2015.
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- Nevertheless, the recent storm was unusually catastrophic because it occurred over a large area over a short span of time.
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- In most cases, storms (like lightening) do not kill by themselves– but they trigger incidents that result in deaths.
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- Walls or homes collapse, and people are electrocuted after power lines snap, or after they are caught in fields filled with water.
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How useful are the predictions?

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- People in the poorest, most densely populated areas are the most vulnerable.
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- Also, while meteorological predictions are for broad geographical areas and timeframes, events are however localised both in time and space.
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- It is not yet possible to predict a thunderstorm or lightning at a precise location — say a village or a part of a city.
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- As the exact times these events will hit can’t be predicted, alerts and warnings usually merely telling people to expect these events, and to take precautions.
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Source: Indian Express

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