



- Joshimath [Chamoli district]
[Uttarakhand]
- Sinking city of Uttarakhand
- Continuous land subsidence
- population of 23,000
 - Badrinath Shrine
 - Auli (famous skiing destination)
 - Indo China border
- A road going towards the Indo-Tibetan border has also developed cracks.

Reasons :-

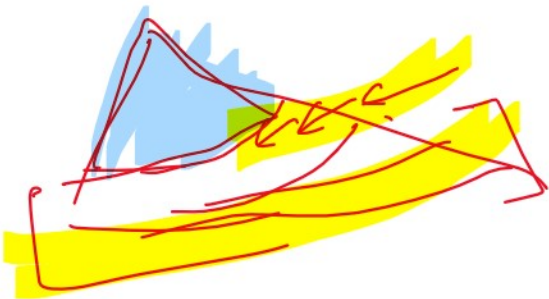
- Too much of large scale construction.

→ hotels, restaurants,
other establishments.

History
formed
→ 100 years ago



- There was an earthquake
- Then came a landslide. Rocks tumbled down and formed the foundation.
Then the city was ^{built} on top of it.
- Not suitable for building dams or wide roads or highways.
- To clear mountain areas, often explosives and drilling is done. Tunnels were drilled through the mountains.



According to the Seismic Zonation Map of India, Joshimath area falls in zone 5 → highest risk of Earthquakes.

In Oct, 2021, ⇒ residents of Gandhinagar and Sunil Ward they saw cracks in their homes.

In mid 2022 → residents of Ravigram noticed the same thing.

Sept, 2022 → Uttarakhand State Disaster Management Authority, published a report

↓
ill-planned
construction

→ no proper drainage system.

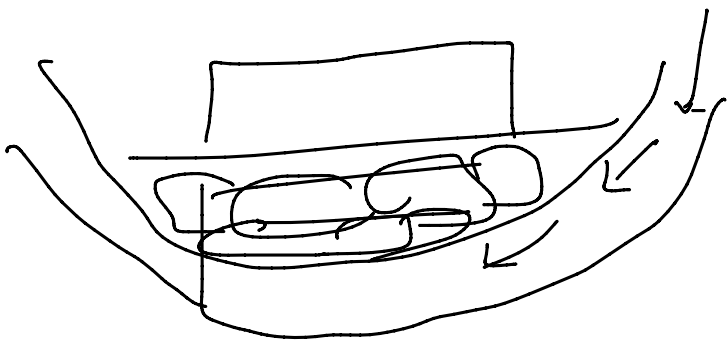
→ National Disaster Response Force and the Border Security Forces have been carrying out evacuations.

Reasons

- no proper planning
- no proper drainage system
- natural causes like erosion

Direct Causes of the land subsidence in Joshimath

- The Tapovan Vishnugad Hydropower Project,
Hydroelectric project
↓
2006



December 2009!

Aquifer — a body of permeable rock which can contain or transmit groundwater.

70 million litres of groundwater is discharged.

NTPCL
National Thermal Power Corporation Limited

2nd direct cause

6 km long road -

Helong Marwarri Bypass

(under construction)

↑
a part of 800 kms long Char Dham Project

inaugurated by Prime Minister Narendra Modi in 2016.
at ₹ 120 Billion.

The Champawat Bypass.

