January 2023 Uttarakhand Disaster & Accident Synopsis (UDAS) Monthly Reports

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About UDAS Monthly Reports:

Uttarakhand Disaster & Accident Synopsis (UDAS) is a monthly initiative by Dehradun-based environmental action and advocacy group, Social Development for Communities (SDC) Foundation. The goal of the UDAS reports is to document disasters and accidents in Uttarakhand, leading to human and ecological casualties. UDAS is based on media reports in respectable publications in English and Hindi newspapers, as well as news portals. UDAS neither attempts nor claims to document all disasters and all accidents in Uttarakhand; its focus instead is to document major casualties and non-casualty events on a regular basis.

We strongly believe that with the perils of inclement climate and unabated disasters, the ecologically fragile and earthquake-prone state of Uttarakhand needs to take many more steps to increase its disaster preparedness. We, therefore, see UDAS as a document that highlights attention towards the urgent need of a holistic disaster management and accident minimization policy framework in Uttarakhand.

It is our earnest hope that UDAS will spur political leadership, policy makers, bureaucracy, research and academic institutions, businesses, civil society organisations, media and the citizenry at large to initiate inclusive, regular and action-oriented conversations on the subjects of resilience, mitigation and adaptation in Uttarakhand. With mainstreaming and a greater focus on the issue, there is likely to be an improvement in the process of planning of climate actions and disaster management in Uttarakhand.

1. Joshimath "sinking": January 2023 update

January 1: Uttarakhand Chief Minister Pushkar Singh Dhami asks Chamoli District Magistrate (DM) Himanshu Khurana for a detailed report.



1 JAHUARY, 2023 HINDUSTAM

January 2: Joshimath residents hold a press conference in Dehradun, allege that one of the major reasons behind cracks in their town is a 12 kilometer tunnel of NTPC Tapovan-Vishnugad 520 MW hydropower project.

January 3: Water seeps in cracked houses in Jaypee Colony. Highway reports cracks. Chamoli district administration shifts five families.

January 4: State govt forms 8 member committee to examine sinking in Joshimath on instructions of CM Pushkar Singh Dhami. Non-government figures claim that so far more than 700 buildings have reported cracks. Auli ropeway operations shut down. Evacuation of families continues due to fresh aquifer bursts.

जोशीमठ की जेपी कॉलोनी, हाईवे पर आई दरारें, पहाड़ी से रिसाव शुरू

बढ़ने लगा भू-धंसाव का दायरा, पुश्ता ढहा, रातभर जागते रहे ग्रामीण

संवाद न्यूज एजेंसी

जोशीमठ। नगर क्षेत्र में भू-धंसाव का दायरा सोमवार रात को अचानक बढ़ गया। मारवाड़ी वार्ड में स्थित ज़ेपी कंपनी की आवासीय कॉलोनी के कई मकतों में दरारें आ गई और पुश्ता ढह गया। साथ हो बदरीनाथ हाईवे पर भी मोटी दरारें आ गई हैं।

कॉलोनी के पीछे पहाड़ी से रात को ही अचानक मटमैले पानी का रिसाव भी शुरू हो गया। यह सब देख लोग अलर्ट हो गए और रतजगा करने लगे। कुछ देर बाद स्थिति सामान्य होने पर लोगों ने राहत की सांस ली। मारवाड़ी वार्ड के सभासद प्रविप भट्ट ने बताया कि जेपी कलोनी के पिछले हिस्से में पहाड़ी से पानी का रिसाव शुरू हो गया है। पानी मटमैला आ रहा है जिससे वाह सीवर या नाली का नहीं लग रहा है। जमीन से ही पानी का रिसाव हो रहा है।





जोशीमठ में बदरीनाब हाईवे के बीचोंबीच हुआ धंसाव और पहाड़ी से शुरु हुआ पानी का रिसाव। संवाद

तहसील भवनों, ज्योतेश्वर महादेव मंदिर में भी आईं दरारें

भू-धंसाव से सोमवार रात को कई वार्ड में दरारें आई हैं। वहीं तहसील के आवासीय भवनों में भी हल्की दरारें दिखने लगी हैं। इसने प्रशासन की चिंता को और बढ़ा दिया है। वहाँ नगर क्षेत्र में ज्योतेश्वर महादेव का मंदिर है। यहां पर आदि गुरु शंकराचार्य ने तपस्या कर ज्योति ज्ञान की प्राप्ति की थी। भू-धंसाव से ज्योतेश्वर मंदिर और मंदिर परिसर में दरारें आ गई हैं।

जुगरान ने जोशीमठ के प्रभावितों को विस्थापित करने की उठाई मांग

देहरादून। भाजपा नेता रवींद्र जुगरान ने चमोली के प्रभारी सचिव दोपेंद्र चौधरी, सचिव शहरी विकास एवं सैनिक कृत्याण से मुलाकात कर उन्हें जोशोमठ की भयावह रियाँत से अवगत कराया। जुगरान ने कहा, अगर नगर वासियों के विस्थापन में विलंब होगा तो भारी जान माल के नुकसान की स्थिति से इनकार नहीं किया जा सकता है।

4 JANUARY, 2023 AMAR UJAYA

January 5: Joshimath bazar remains shut on the call of residents & Badrinath highway is jammed by agitating residents. Cracks start moving towards the area that belongs to the armed forces. Chamoli district administration asks NTPC and Hindustan Construction Company to make 2,00 each (total 4,000) prefabricated houses. Chamoli district administration also halts all construction activities in Joshimath like road widening on the all weather road between Helang and Marwari and on NTPC project.

Increase reported in cracks in the town of Karanprayag (also in district Chamoli) that is 80 Kilometer away from Joshimath. In Joshimath, govt figures claim 561 buildings with cracks whereas non government figures state cracks in 800 buildings (700 personal, 90 commercial & 10 govt). Gandhi Nagar, Marwari, Lower Bazar, Singhdwar, Manohar Bagh, Upper Bazar, Sunil Gaon, Parsari and Ravigram are affected areas.

January 6: CM Dhami instructs that land around Gauchar and Pipalkoti be identified for rehabilitation. State readies choppers, puts in place slew of emergency measures in case of any emergency. National Mission for Clean Ganga (NMCG) forms a 6 member committee and seeks a report on Joshimath within three days.

Residents allege steps taken by the government are not sufficient and if they had listened to them earlier in October 2021, the situation would not have been so alarming. Simultaneously, families in the ancient village of Hatt (Chhoti Kashi) in Chamoli district, barely 40 KM from Joshimath, feel that their village will sink too. Hatt traces its origins to Adi Shankaracharya who is believed to have established the Laxmi Narayan temple here over a 1000 years ago.

Char Dham all-weather rd works, key projects stopped 'for now'

Admin Halts All Construction Activities In Joshimath

Shivani Azad & Gaurav Talwar

Dehradun: Road widening works on the all-weather Char Dham road between Helang to Marwari was stopped "until further orders" by the Chamoli district administration on Thursday after thousands of anxious Joshimath residents blocked the Badrinath National Highway-58 for hours, following a night of vigil and day of protests.

The entire project is estimated to cost Rs 12,000 crore and will cover 889 km when it is complete.

▶Continued on P 4



Thousands of anxious residents of Joshimath, where houses have been developing large cracks, blocked NH-58 for 8 hours on Thursday morning

4000 pre-fabricated houses to be set up for affected families

Dehradun: Thousands of anxious residents of Joshimath, where houses have been developing large cracks, blocked national highway-58 for eight hours on Thursday morning, report Gaurav Talwar & Shivani Azad They also helda 'chakkajam' seeking immediate rehabilitation of the affected families and stopping work at the under-construction Vishnugad-Tapovan hydropower project of National Thermal Power Corporation (NTPC), which they blamed for the hillside's weakening. P4

Double whammy as winter tourism set to take a hit

Dehradun: Amid the panic created by huge cracks developed in houses, builfings and roads, the residents of Joshimath and Auli are set to be hit by a double whammy in the peak winter season, reports Kautilya Singh. Over the years, Auli has remained among the most preferred locations for tourists from across north India. The impact had been such that even during peak Covid times, a significant number of tourists came to Auli to enjoy snowfall and winter games. This year, locals were optimistic of a "bumper season", but with news of Joshimath 'sinking' doing the rounds, interest among tourists to visit the town seems to have further plummeted. P4

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January 7: CM Dhami visits Joshimath. Orders evacuation of all from Joshimath danger zones and sanctions Rs 4,000/month for each displaced family. The Government identifies 603 buildings in which cracks have appeared and as of Jan 7 evening, 44 families are moved to safer places.

Wadia scientists claim that land subsiding in Joshimath is at a rate that is double that of the Himalayas. On another note, media reports claim that the historic Band Stand area in Nainital is showing cracks since the past six months

January 8: PMO reviews Joshimath situation & asks Uttarakhand state to ensure immediate safety measures while adopting a "whole of govt" approach. Uttarakhand govt declares the nine municipal wards in Joshimath as land subsidence affected. Ranjit Kumar Sinha, Secretary, Disaster Management, Government of Uttarakhand issues a notification in this regard under Section 23 of the Uttaranchal Disaster Mitigation, Management and Prevention Act of 2005.

Expert Committee formed to examine Joshimath recommends that buildings with cracks be taken down. 603 buildings report cracks.

There are still no answers for the aquifer that burst in Jaypee Colony one week ago on January 2. On another note, media reports claim cracks in roads in the Landour area in Mussoorie and that 85 houses are impacted in Atali village in Narendra Nagar block in district Tehri due to the ongoing construction of the Rishikesh Karanprayag rail line.

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'Houses with max damag máy be razed in Joshima

Survey Team Recommends To State Govt

Gaurav.Talwar @timesgroup.com

Dehradun: An eight-member expert panelled by Ranjit Sinha, secretary of disaster management department, which held a field survey of Joshimath on January 5-6, has recommended in its report that "houses with maximum damage should be demolished, areas which have become inhabitable must be identified and relocation of the people at risk should be done as an immediate measure". A senior official, privy to the report submitted both to the Centre and state government, told TOI on Saturday: "Prima facie, it appears that at least 25% area of Joshimath, which has a population of about 25,000, has been affected by the land-subsidence problem. A survey to ascertain the intensity of damage (to buildings and sundry structures) is currently underway. It will be put in three categories: severe, moderate and slight."

The expert team, which was urgently tasked to assess the damage to buildings and extent of ground subsidence (sinkage) in Joshimath, visited the affected areas during its two-day survey and finalised its report on Saturday, a copy of which is wintoil lithas observed "ag-Dehradun: An eight-mem-



Local residents of Joshimath, who are in the process of being shifted to rescue centres after their houses developed large cracks, burst into tears on meeting chief minister Pushkar Singh Dhami who visited the affected parts of the town on Saturday P.

Joshimath a lesson, 10 cr visit U'khand every yr, how much can it take: Experts

In 2022, close to five crore tourists, 3.8 crore Kanwar yatris and 45 lakh Char Dham pilgrims, visited Uttarakhand. While 2022 emerged as the most successful year for tourism in the context offootfall, it has simultaneously raised several questions about the infrastructure availability, carrying capacity of hill towns, scientific study, assessment and several other key factors related to the well-being of the mountains and residents, reports **Kautilya** Singh. Joshimath saw as many as 4.9 lakh visitors in 2019, 4.3 lakh visitors in 2018 and 2.4 lakh devotees in 2017 and the number nearly doubled to 45 lakh in 2022. P3

gravated damages" in Sunil, Manohar Bagh, Singhdhar and Marwari areas, as com-pared to the last field survey just some months ago in Au-gust 2022.

gust 2022.

The team also visited Jaypee Colony where an aquifer had burst on the night of January 2 with major turbid water flow of roughly 400 lpm (litre per minute). It has observed an "increased land-

subsidence with the burst of the aquifer". The report said: "The gushing of water flow and the appearance of aggravated cracks coincide." It added: "The burst of water flow, which was traced from Jaypee Colony to Marwari, probably created some underground void space (sic), which has resulted in sinking and subsidence at different spots above and below

Why no action taken yet?' Seer moves SC

yotish Peeth's Swami Avimukteshwarananda, shankaracharya, one of the prominent seats of the Adi Shankaracharya order and based in Joshimath, has filed a based in Joshimath, has filed a PIL in the apex court seeking urgent intervention in the matter of "portions of the holy town sinking". The PIL says that despite signs that cracks were developing in houses in the town, no action was taken, and now the situation has taken a serious turn. **P3**

Now, Army base also reports cracks

venstructures in the Army campus of Joshimath are developing cracks, according to officials. "The whole landscape in Joshimath, including the area that comes under the Army, is facing land subsidence," said Piyoosh Rautela, a member of the expert team which conducted a field survey of Joshimath town on January 6. P3

Jaypee Colony, causing many large cracks - some even a metre deep...Due to this, the retaining walls and foundations of buildings to buildings this, the retaining walls and foundations of buildings, have failed, contributing for cracks in the buildings and on the ground... Yet, he water source is not ascertained. Samples have been collected to determine as source."

Continued on D.3

January 9: In the first major action towards razing of structures that are posing threat to residents, Chamoli district administration orders demolition of two hotels, Mount View and Malari Inn. Demolition to happen in supervision of Central Building Research Institute (CBRI), Roorkee. Number of buildings with cracks reaches 678 with red cross marks on 75 buildings.

January 10: 20 places identified in nearby Pipalkoti to temporarily house 2205 people while arrangements are made to house 1425 people in Joshimath. Apart from the aquifer in Jaypee Colony, water discharge starts in three other locations in Singhdwar (two) & Manohar Bagh (one). Dismantling of hotels could not start due to agitation by affected families. Joshmath Bachao Sangharsh Samiti (JBSS) calls for mental health experts amid displacement.

January 11: State govt announces Rs 45 crores for 3000 affected families (Rs 1.5 lakh per affected family) as interim assistance. CM Dhami is in Joshimath on his second visit in a week and said that market rate will be taken into consideration as compensation for the damaged structures. Joshimath residents instead demand compensation on the lines of the Badrinath Redevelopment Plan. They also demand permanent solutions from the government.

ISRO gives a report to the government that Joshimath is sinking 2.6 inches on an yearly basis based on evaluation of satellite pictures between July 2020 to March 2022. Demolition of Mount View and Malari Inn is yet to begin as district administration and residents fail to come to terms on compensation amounts.

On another note, media reports state that Cabinet Minister Ganesh Joshi promised Rs 8.5 lakhs per family to the disaster affected families of Sarkhet to build houses. Sarkhet near Dehradun was battered by cloudbursts and heavy damages were reported at the time of disaster(https://economictimes.indiatimes.com/news/india/cloudburst-in-dehradun-swollen -rivers-wash-away-bridges/articleshow/93676127.cms?from=mdr),

January 12: The owners of Mount View and Malari Inn agree for the demolition of their hotels. It set the stage for the first demolition in Joshimath. Chief Scientist of CBRI, Roorkee Devi Prasad Kanungo who played a major role in the Suprtech twin tower blast in Noida is conducting the exercise with expert teams in Joshimath.

Veteran environmentalist Ravi Chopra who is in Joshimath said that there is adequate reason to believe that what we are witnessing in Joshimath is a result of the tunneling exercise conducted by NTPC.

The High Court asks the Uttarakhand government to submit a status report on Joshimath in the next two months.

CM Dhami says that the Rs 1.5 Lakh relief is not the complete package and more will be given. He was in Joshimath for the second day. Ranjit Sinha, Secretary Disaster Management says that Rs 80 Lakhs have been distributed so far to 170 affected families.

January 13: Following a Cabinet meeting, Uttarakhand Chief Secretary SS Sandhu said that eight institutes are studying the reasons behind Joshimath land subsidence & the role of NTPC project is included in their investigations. SS Sandhu said that the government will act on the basis of the report.

The Uttarakhand Cabinet approved a proposal to carry out a carrying capacity study in towns in the hill areas of Uttarakhand. The Cabinet approved Rs 45 Crore for interim relief to around 3,000 land subsidence affected families at Rs 1.5 lakh for each, building prefabricated buildings at 4 new rehabilitation sites, increasing rent amount per month from Rs 4000 to Rs 5000 and Rs 450 per person per day for food in relief camps. Relief is also provided on water & electricity bills for six months.

CM Dhami called Joshimath subsidence a natural disaster over the past 24 hours. SS Sandhu toes the same line and said that the report which the state government has got so far mentions that Joshimath is located on the remains of a landslide mass.

A preliminary report released by ISRO showed that a rapid subsidence event was triggered in parts of Joshimath town. It said that while slow subsidence up to 9 cms in the town was recorded over a period of 7 months since April 2022, satellite data acquired by ISRO found the area sunk by around 5 cm in just 12 days from December 27, 2022 till January 9, 2023

1790 units/buildings are registered with Nagar Palika Joshimath whereas there are a total of 2695 units/buildings.

People in Joshimath start the "NTPC Go Back" poster campaign. People started putting the posters in the main market of Joshimath.

In another development, Chamoli district administration asked 8 houses to be vacated in the Bahuguna Nagar area in Karanprayag due to similar subsidence issues as Joshimath.

January 14: NDMA asks 12 govt expert agencies to stop sharing any information in public domain or with media. It says that their interaction is creating confusion not only among the affected Joshimath residents, but also among all other citizens.

Cabinet Minister Dhan Singh Rawat speaks to ISRO Director and asks them to remove the information put out by them in the public domain about the sinking of Joshimath.

Water seepage increases in Jaypee Colony and cracks appear in the Joshimath-Auli ropeways platform. In another update, cracks in walls in homes in Gopeshwar which is the district headquarter of Chamoli start to widen.

January 15: As many as 309 fully or partially road blocking landslides have been identified along the 247 kilometer road stretch between Rishikesh and Joshimath that translates into an average of 1.25 landslides per kilometer according to a study undertaken by a group of Indian and foreign scientists

A team from the Prime Minister's Office (PMO) led by deputy secretary Mangesh Ghildiyal inspects affected areas around Joshimath. The team visited Jaypee Colony in Marwari ward that is believed to be the worst affected part of the town after an aquifer burst here on January 2.

Two more hotels Snow Crest and Kamet in Manohar Bagh ward have tilted dangerously towards each other & have been vacated by the district administration as a precautionary measure. The number of buildings that have developed cracks increases to 826 while 165 structures have been declared unsafe for living by the district administration. The ward wise break up for 826 buildings with cracks is as follows:

- 1. Ravigram 161
- 2. Gandhinagar 154
- 3. Manohar Bagh 131
- 4. Singhdwar 128
- 5. Sunil 78
- 6. Parsari 55

- 7. Marwari 41
- 8. Upper Bazar 40
- 9. Lower Bazar 38

Total 826

The Badrinath Head Priset, Easwaraprasad Namboothiri expressing concern urges authorities to stop the projects that harm nature and the people of the town of Joshimath.



BYAR UJ ALA

January 16: The Supreme Court refuses to entertain a plea seeking the Court's intervention to declare the Joshimath crisis a national disaster, saying since the state High Court is seized of a broad range of issues, it should hear it as a matter of principle.

The state government decides to mechanically demolish structures at Jaypee Residential Colony that cannot be retrofitted or repaired to reduce the burden on the slope said to be accountable for the town's situation. The total number of buildings with cracks reaches 849 based on 23 new houses that report cracks.

An expert team of the Geological Survey of India (GSI) gives its nod to four nearby locations near Joshimath for rehabilitation - Koti Farm, Pipalkoti, Herb Research & Development Institute land and Dhak village.

Suspense hangs on the report submitted by National Institute of Hydrology (NIH), Roorkee on the water burst on January 2, 2023 in Jaypee Colony.

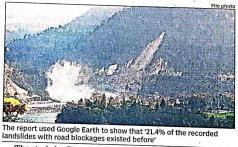
CBRI Roorkee is made the nodal agency for Joshimath by NDMA.

In another update, reports emerge about the Marora village in district Rudraprayag where 13 families out of 43 have moved to safer areas due to cracks in their homes. Separated by about 100 kilometers from Joshimath, the villagers of Marora blame the upcoming 125 kilometer Rishikesh Karanprayag rail line for their woes. It was in 2021 that the cracks first appeared in their houses and the locals had blamed it on the rail project.



Areas: Study Gaurav.Talwar @timesgroup.com

Dehradun: As many as 309 "fully or partially road-block-ing landslides" have been identified along the 247-km road stretch between Rishi-kesh and Joshimath, which translates into an average of 1.25 landslides per km, according to a study undertaken by agroup of Indian and foreign agroup of Indian and foreign scientists, which was intro-duced for discussion at the Auropean Geosciences Union on January 10.



The study by Jürgen Mey, Ravi Kumar Guntu, Alexan-der Plakias, Igo Silva de Al-Wolfgang and . Schwanghart was published in 'Natural Hazards and Earth System Sciences', a peer-reviewed journal.
In addition to environ-

mental conditions like mental conditions like rainfall, road construction and widening may have led to the formation of new landslides, which the report said "are often shallow and small but which nevertheless inflict fetallities course." less inflict fatalities, severe damage to infrastructure and traffic disruption".

The report points out that "this road is strongly affected by landslides which has been previously described and attributed to the region's fragility of slopes, focused rainfall and frequent seismicity". It further stated that most landslides "seemed fresh".

The report, which many

The report, which mapped the landslides in October last year, used Google Earth to show that "21.4% of the recorded landslides with road blockages existed before", "17.8% of the landslides were most likely reactivated by 17.6% of the landshides were most likely reactivated by excessive rainfall because they could not be identified as road-blocking before the rains" and "maximum, 60.8%, were not identifiable in the Google Earth imagory." Earth imagery"

► Continued on P 2

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January 17: Based on the GSI report, the district administration of Chamoli has given go ahead for permanent rehabilitation in Pipalkoti and allocated two hectare land for 125 to 130 families. CBRI will develop the land and make layouts for houses. Pipalkoti is 36 kilometers away from Joshimath.

Urban Development Minister Prem Chand Agarwal said that a private organization, Rudrabhishek Enterprises Private Limited (REPL) will make plans for 8 towns in Chamoli district. These 8 towns are Joshimath, Chamoli, Gopeshwar, Karanprayag, Nandprayag, Pipalkoti, Pokhri & Tharali.

Secretary, Disaster Management Ranjit Sinha said that making of prefabricated houses would start from January 18 and the model homes would be ready within one week.

838 people from 250 families are staying in different relief centers & camps. Many others are staying put in their homes with cracks.

January 18: Secretary, Disaster Management Ranjit Sinha says that the water from the January 2, 2023 burst aquifer in Jaypee Colony compared to the water in the NTPC tunnel is different. This is based on the preliminary report submitted by NHI, Roorke.

Till date 849 buildings in 9 wards are affected. 181 of these are graded in the unsafe category. 865 people from 258 families have been moved to temporary locations. 500 affected have received Rs. 3.28 crore relief.

As per DM Chamoli Himanshu Khuranatwo private homes in Manohar Bagh ward will also be dismantled. As per Himanshu Khurana, the owners of these houses have written to the district administration. Apart from the two private homes, a PWD guest house will also be demolished. This is the first govt building to be mechanically dismantled in Joshimath.

Footfalls take a big hit as the tourism sector in Auli, located 11 kilometers from Joshimath, stares at huge losses. Hoteliers claim to have received no enquiries post the Joshimath crisis.

January 19: CM Dhami, in his meeting with Union home minister Amit Shah said that 65% to 70% residents of Joshimath were leading a normal life and only 30% have been affected. He added that each year lakhs & crores of people come to the state & a wrong message should not go to them. However, residents of Joshimath express disagreement at the CMs assessment. CM Dhami in the Joshimath review meeting in Dehradun said that all towns and cities in Uttarakhand should have sewage and drainage systems. He said that eight agencies are working in Joshimath. Dhami said that each district in Uttarakhand should have town planning. CM Dhami had earlier spoken about evaluating carrying capacity for all towns.

Tourism Minister Satpal Maharaj who was in Joshimath said that investigations would be done on permissions that were given to make high rise buildings in the town.

Irrigation Dept prepares the design for the 1.5 kilometer long & 8 meter high retaining wall that will stop the erosion in Joshimath due to the Alaknanda river. The department will prepare the DPR within one week and send it to the secretariat in Dehradun.

The muck that is getting generated due to the dismantling of buildings is being dumped at Selud and Selang. These spots are about two kilometers away from Joshimath and have been chosen based on selection by Border Roads Organization (BRO).

January 20: A fresh spell of rain & snow lashes Joshimath, causing drop in temperature & adding to the woes of families who have moved out of their damaged homes & are staying at temporary shelter camps.

Despite widespread subsidence, power supply in Joshimath had remained steady so far. But now with around 70 electric poles & some transformers having started to tilt, Uttarakhand

Power Corporation Limited (UPCL) officials said that plans are afoot to deal with a possible power supply issue in Joshimath.

The water gushing out of a wall near Jaypee Colony witnessed a rise for the second consecutive day as it increased to 250 liters per minute (LPM). The quantum of water which gradually came down from 540 LPM on January 6 to 100 LPM on January 18, rose to 150 on January 19.

CM Dhami appoints Ajendra Ajay, Chairman of Badrinath Kedarnath Mandir Samiti as his Special Representative for Joshimath.

With 14 more buildings reporting cracks, the total number of buildings with cracks in Joshimath goes up to 863.

January 21: With rains & snowfall, facilities at relief homes are taking a hit. In some places, several families are staying in one room. Though heaters have been provided, some places don't have electricity connections. Some relief camps have only one toilet.

The Uttarakhand government writes to BRO to consult Geological Survey of India & IIT Roorkee if the work on the Helang Marwari bypass under the Char Dham all weather road project halted by the district administration in the first week of January after protests by locals can begin again.

Reports from eight institutions to decide the fate of Joshimath. These eight institutions are as follows (alphabetical order)

- 1. Central Building Research Institute (CBRI) Roorkee (CBRI is also the nodal agency for the eight institutions)
- 2. Central Ground Water Board (CGWB)
- 3. Geological Survey of India (GSI)
- 4. Indian Institute of Remote Sensing (IIRS) Dehradun
- 5. Indian Institute of Technology (IIT) Roorkee
- 6. National Geophysical Research Institute (NGRI) Hyderabad
- 7. National Institute of Hydrology (NIH) Roorkee
- 8. Wadia Institute of Himalayan Geology (WIHG) Dehradun

Rehabilitation of Joshimath is becoming a challenge for the government since different people have different views. The affected families are not unanimous about rehabilitation. While some are talking about one-time settlement, many do not want to leave their roots, saying their livelihood is dependent on the town.

15 prefabricated huts to be made in Dhak village. After its survey, GSI has given the go ahead for making the huts.

January 22: People in Joshimath are extremely worried about their future. Several questions & concerns abound

- 1. Grave questions on existence of Joshimath
- 2. Differing views about the NTPC tunnel between government & residents of Joshimath
- 3. Different views regarding rehabilitation
- 4.Challenge to save the gateway of the Himalayas & the town associated with Adi Shankaracharya

5. How will the tourism & pilgrimage business be able to sustain itself

Cracks widen in the fields in Singh Dwar. Emaar Group to make 100 prefabricated huts.

{ HELANG-MARWARI BYPASS } JOSHIMATH CRISIS

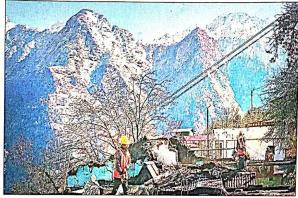
Govt asks BRO to consult experts on project

Amit Bathla

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DEHRADUN: Amid the land subsidence crisis in Joshimath, the state government on Saturday wrote to the Border Roads Organisation (BRO) to consult the Geological Survey of India (GSI) and the Indian Institute of Technology (IIT), Roorkee, if the work on Helang-Marwari bypass under the Char Dham all-weather road project halted by the district administration in the first week of January after protests by locals can begin again. Secretary, disaster manage-

ment Ranjit Kumar Sinha told HT, "Ihave written to the BRO to consult the GS and tIT, Roorkee if the work on the Helang-Marwari bypass can restart. If the technical agencies give their go ahead, the work will re-begin. Though it won't complete before the upcoming Char Dham yatra season, it is important to keep the wook going and ensure its empletion on a fixed time, can be a fixed time, and the chard webide, pass through Joshimath amid the lond subsidence situation, it can make a negative impact by increasing the burden



Workers demolish buildings in the land subsidence affected area in Joshimath on Saturday.

on the town. It would be unjustified to keep the important work suspended if not making any impact on the ongoing land subsidence situation in holy town."

. Meanwhile, BRO has constituted a committee of experts from IIT Roorkee to look into the construction of the Helang bypass, Sinha said.
According to the affected fam-

ilies and some experts, the big-

gest culprit behind the sinking of Joshimath is the unnecessary digging of the earth through blasting in the fragile land for the construction of a tunnel under the town for NTPC's Tap-

ovan Vishnugad hydro project. They also alleged Joshimath's base was being shaken by the construction of a Helang-Marwari bypass, under the Char Dham all-weather road project. Prime Minister Narendra Modi laid the foundation stone for Char Dham road project in December 2016 to provide allweather connectivity to four major Hindu shrines of Badrinath, Kedarnath, Gangotri and Yamunotri located in the upper

Himalayas of Uttarakhand. Under the Centre's ₹12,000 crore ambitious Char Dham project, the Helang-Marwari bypass, which is being constructed around 13 km from Joshimath at its foothill, aims to shorten the distance to Badrinath by 30 km.

The Supreme Court, in 2019, ordered the setting up of a high-powered committee to take a view on whether the Centre's ambitious project needs to be revised to minimise its ecological damage. It also appointed noted environmentalist Ravi Chopra as the chairperson of the panel.

On December 14, 2021, the Supreme Court permitted the Union government to construct all-weather roads with 10m width as part of its Char Dham project in Uttarakhand, underlining that "the recent past has thrown up serious challenges to national security", and that wide strategic feeder roads to Indo-China border areas were required for the infrastructural needs of the armed forces.

In February 2022, Chopra resigned from the post of chairperson, expressing permission over the "braze widening of roads" under the Char Cham project in the ecologically fragile Himalayas.

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January 23: The Border Roads Organization (BRO) is believed to have informed Uttarakhand State Disaster Management Authority (USDMA) that the Helang bypass project is expected to be completed in 2.5 years and therefore it is unlikely that the alternative road to Badrinath will be ready before the Char Dham Yatra that is just three months away. The Helang bypass project commenced in September 2022 and the rock cutting as well as other initial work are just about underway.

Cracks are reported on many spots on the Badrinath national highway. 17 lakh pilgrims had passed through the area in last year's 2022 Char Dham yatra on way to the Badrinath shrine.

Secretary Disaster Management Ranjit Sinha says that reports of national institutes will come in the next 3 to 4 weeks.

Tourism Minister Satpal Maharaj says that Char Dham Yatra of 2023 will be based on the carrying capacity of the four Dhams.

Local businesses take out a protest march against state government and district authorities. They demand closure of the construction of Helang Marwari bypass, declaring the entire town of Joshimath as disaster affected and appointing representatives of the Vyapar Mandal in the government appointed advisory committee.



January 24: Fresh cracks, some as wide as 2 meters, that have appeared on the Badrinath highway following a spell of rain could potentially affect Indian Army personnel deployed near the border with China, feel defense experts. The road is frequently used by the Army and ITBP to transport supplies & troops to their bases near LAC through Mana Pass.

Light tremors were reportedly felt in Joshimath triggering panic as it may aggravate the crisis according to the local residents. However, the district administration denied any tremors and said that they had not received any reports of tremors.

Secretary Disaster Management Ranjit Sinha says that if needed, rehabilitation of Jyotirmath will also be done. One week's time is given to IIT Roorkee to inform whether work can

commence on the Helang Marwari highway. It will advise whether work on the highway will have any impact on Joshimath or not.

In other developments in Uttarakhand, the construction wing of Indian Railways, Rail Vikas Nigam Limited (RVNL) which is working on the Rishikesh Karanprayag railway line has acquired the land at Marora village in district Rudraprayag. The RVNL authorities have forwarded the compensation amount worth Rs 21 crores to Rudraprayag district administration for rehabilitation of 70 families residing in the village. The affected families were facing land subsidence resulting in wide cracks in their houses.

In Karanprayag, 48 houses with cracks have been identified. CM Dhami has ordered a detailed geological survey of Karanprayag. The areas affected in Karanprayag are Bahuguna Nagar and ITI area.

Since the beginning of January when the crisis in Joshimath escalated, the issue of crumbling buildings has echoed in several other places in the state like Uttarkashi, Guptkashi, Rishikesh, Nainital and Mussoorie to name a few.

January 25: The eighth central technical and scientific institutions conducting various studies to ascertain the causes of land subsidence have submitted their preliminary reports to National Disaster Management Authority (NDMA), according to USDMA officials.

As per preliminary reports of the eight central institutions, large parts of Joshimath have become hollow. Water and soil has drained in massive quantities. Till now, in 460 different places below the ground, 40 to 50 meter cracks have been noted. Thus, 30% of the area impacted by subsidence can sink any time. It is therefore key and vital to shift 4000 people.

The government puts the redevelopment of Joshimath in the Pipalkoti area on hold.

January 26 and 27: Locals take out Tiranga Rally on January 26 and the Joshimath Bachao Sangharsh Samiti takes out a massive Jan Akrosh rally where 3000 people and business people participate. It is allegedly the largest rally ever in Joshimath. People come up with slogans asking NTPC to go back & allege inadequate relief fund.

Hotels and homestays take a big hit in the wake of the land subsidence. There are 68 hotels and 101 home stays that are registered with the Hotel Association in Joshimath. In normal times, these were booked for almost 12 months.

State govt formed a new three member committee of National Highways Authority of India (NHAI), IIT Roorkee and Tehri Hydro Development Corporation Limited (THDC) that will explore the possibilities for the construction of the Helang Marwari bypass.

2 crore 21 lakh liters water has flown in the last 25 days due to the water discharge at Jaypee Colony. The quantum of water was as follows on different dates

Jan 3, it was 550 LPM Jan 4, it was 550 LPM Jan 5, it was 550 LPM Jan 6, it was 540 LMP Jan 7, it was 500 LPM Jan 8, it was 400 LPM Jan 9, it was 300 LPM Jan 10, it was 250 LPM Jan 11, it was 245 LPM Jan 12, it was 200 LPM Jan 13 it was 177 LPM Jan 14, it was 240 LPM Jan 15, it was 240 LPM Jan 16, it was 163 LPM Jan 17, it was 150 LPM Jan 18, it was 123 LPM Jan 19, it was 100 LPM Jan 20, it was 150 LPM Jan 21, it was 250 LPM Jan 22, it was 136 LPM Jan 23, it was 136 LPM Jan 24, it was 180 LPM Jan 25, it was 182 LPM Jan 26, it was 180 LPM Jan 27, it was 171 LPM

As per govt data, the number of buildings with cracks has been stable since the past seven days starting January 20, 2023. The total number of buildings with cracks is 863.

January 28: Major increase in blood pressure amongst people of Joshimath due to concerns with homes & shops, earnings, education of children, situation with animals. These are also leading to sleep disorders, lack of hunger and higher levels of irritation. All of this is leading to increased stress.

More than 2000 people have been examined in the health camps and hospital, and of these 15% i.e 300 have reported high blood pressure levels. While there were 80 BP patients prior to the land subsidence, the number has gone up to more than 380 now.

Scientific institutions ask for large scale contour maps from the state government. The map that was prepared based on a drone survey by ITDA on request of USDMA was found unsuitable.

January 29: Nearly 300 displaced families of Joshimath who were forced to move out after their homes developed cracks and were declared unsafe and uninhabitable have spent 25 days at various government shelter homes. Many said that they have developed health issues worrying about their future. They also said they were waiting for the prefabricated homes promised by the district administration on January 5.

There are 29 schools in Joshimath of different classes in both private and government sectors. Of these, 7 schools with 1495 students are those where relief camps have been set up with 450 people staying there. Apart from the affected people, people from SDRF, NDRF, ITBP and Police Jawans are also staying in these schools. With the schools to restart after their winter break on February 1, there are concerns on how these schools will be ready to hold classes.

The total number of buildings with cracks at 863 is unchanged since January 20 as per Chamoli district administration. The water discharge at the burst aquifer at Jaypee Colony has remained unchanged at 170 LPM on 27, 28 and 29 January.

The Malari Inn and Mount View hotels have been 40% dismantled.

January 30: Additional Chief Secretary, Government of Uttarakhand Anand Vardhan chairs a high-level meeting where DM Chamoli proposes three alternatives for rehabilitation and resettlement of affected people. Under proposed option one, one time settlement will be done by providing financial assistance. In this, the landowner will have to transfer the property in favor of the government. The second option says that land up to a maximum area of 100 square meters will be provided along with compensation money for house construction. In the third option, a house will be constructed up to a maximum area of 75 square meters at the identified place for the rehabilitation of the affected families. Final decision will be taken at the Cabinet Meeting. Meanwhile, local residents express dismay at the above options.

The water discharge at the burst aquifer at Jaypee Colony comes down to 67 LPM on 30 January. Total number of buildings with cracks is 863 of which 181 are declared as being unsafe. The District Administration has 253 families in relief camps and Rs 429.77 Lakhs has been distributed to affected families.

There will be no electricity and water bills for disaster affected commercial entities for 6 months.

A month on, Joshimath locals wait for prefabricated houses

Gaurav Talwar & Shivani Azad | TNN

Dehradun: Nearly 300 displaced families of Joshimath, who were forced to move out after their homes developed cracks and were declared "unsafe" and "uninhabitable", have spent 25 days now at various government shelter homes. Many said they have developed health issues worrying about their future. They also said they are waiting for the prefabricated homes promised by the district administration on January 5.

According to the Uttarakhand State Disaster Management Authority (USDMA) "248 families of 900 persons have been temporarily displaced in view of security" and are cur-rently living in shelters earmarked by the district administration. "I, along with my parents and two sisters, haye been living in a café on Auli oad in ward number 7 sin'e January 5. In peak winters, we are forced to live like refugees in our own town. There has been no communication from the administration on whether we will be shifted to any oth-



SDRF personnel demolish the Malari Inn hotel in the land subsidence-affected area in Joshimath on Sunday

er accommodation or will continue living like this," said 19-year-old Nikita Saklani. The relief camps are in Joshimath and Pipalkoti. There are around 661 rooms in the relief camps of Joshimath, with the capacity to house 2,957 residents, while in Pipalkoti, there are 491 rooms with the capacity to house 2,205 persons.

For a more permanent measure, the Chamoli district administration had asked NTPC and Hindustan Construction Company Limited (HCC), which have been building projects in the town that locals blamed for Joshimath's land subsidence, to build 2000 prefabricated houses each.

"So far, we only know 4,000 such houses will be made but in the last 25 days; we haven't even seen the model of such a house. There seems to be no urgency," said Prakash Rawat, a former block president from Joshimath.

Recently, on January 24, Chamoli district magistrate Himanshu Khuranna visited the land at Dhak village where the prefabricated houses will be constructed, urging for the process to be expedited. Scientists of Central Building Research Institute (CBRI), Roorkee, are monitoring the construction of these houses. CBRI has earlier developed makeshift structures to be used as Covid hospitals in Delhi and several other towns in north India.

Meanwhile, having been forced to move out of their homes and with no clear picture of what the future holds for them, many residents claim their health has been adversely affected.

Dr Rohit Gondwal from Selaqui mental health hospital in Dehradun, who is on a 15-day deputation to Joshimath, told TOI, "It's hard on breadwinners, like drivers, small-time shopkeepers and businesspersons. Our teams are counselling them round-the-clock at health camps."

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January 31: Authorities have clarified that this year's Char Dham yatra to Badrinath will pass through Joshimath town since the Helang bypass construction is still in its initial stages.

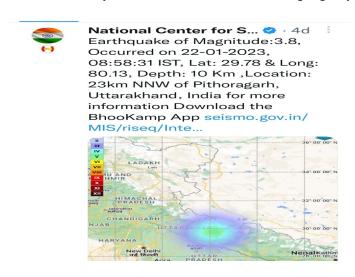
With the affected residents and rehabilitation workers shifted to other sites, all the nine schools that were converted into rehabilitation centers are now back to their usual form. A total of 430 students are studying in different schools in Joshimath.

Additional Chief Secretary Anand Vardhan asks the Planning Department to identify agencies that would conduct carrying capacity studies in Uttarakhand. One of the biggest reasons attributed to the land sinking in Joshimath is construction beyond carrying capacity.



2. January 22, 2023: Earthquake of magnitude 3.8 hits Pithoragarh

An earthquake of magnitude 3.8 on the Richter scale hit a location 23 Kilometer NNW of Pithoragarh at 8.58 AM on January 22, 2023. No loss to life and property were reported.



3. January 30, 2023: Avalanche hits Malari village

A massive avalanche, believed to have been triggered by a glacial burst, occurred in Malari village on the banks of the Kunti river - a tributary of Dhauli Ganga - near the Indo China border in Chamoli district on Monday, January 30 morning.

The area in Malari village in Dhauli Ganga where the avalanche hit is about 60 kilometer from the land subsidence hit town of Joshimath. However, there was no report of any damage to life and property as the region remains uninhabitable during the winter months and only has the presence of ITBP.

Malari is the biggest village in the Niti Valley and is located at 3048 meters. The Niti valley is a remote valley near the China border.

About Social Development for Communities (SDC) Foundation:

SDC Foundation is a Dehradun-based environmental action and advocacy group engaged in communication, citizen engagement and capacity building in the Himalayan state of Uttarakhand. The foundation works in partnership with the institutions of Government of India, Government of Uttarakhand and other stakeholders such as research & academic institutions, community groups, civil society, media partners, NGOs, businesses & trade bodies, schools & colleges in the state.

Climate and environment conservation, waste management, sustainable urbanisation and a basket of sustainable development issues are key focus areas of the foundation.

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