Social Development
for Communities
FOUNDATION

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Uttarakhand Disaster & Accident Synopsis (UDAS)
Monthly Reports

Social Development for Communities (SDC) Foundation
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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. May 2023 update : Joshimath "sinking"

Amar Ujala reported on May 2, 2023 that as per a report in the European Geoscience Union's Journal of Natural Hazards and Earth Sciences April 2023 that was published based on research by Dr. Vipin Kumar, Assistant Professor, Department of Geology, Doon University in Dehradun, Uttarakhand the land in Joshimath can move by 20 to 21 metres in case of an earthquake with a magnitude of six.

Dr. Vipin Kumar said that earthquakes had earlier taken place in Chamoli in 1999 and in Uttarkashi in 1991 in Uttarakhand and these were devastating earthquakes. The site of the Chamoli earthquake in 1999 was 26 kilometres away from Joshimath. Dr. Kumar started his research after cracks appeared recently in buildings in Joshimath. He has claimed that this is a first ever research of its kind in the country where land subsidence has been calculated based on rainfall, sewage or earthquake.

Dr. Vipin Kumar said that Joshimath is located in the Main Central Thrust (MCT) area and there is a high probability of an earthquake. Data for Dr. Kumars research was based on the Chamoli earthquake of 1999. The report is funded by DST based on funding received by Hemvati Nandan Bahuguna Garhwal University Professor Yash Pal Sundriyal.

City

देहरादून | मंगलवार | 02.05.2023

वैशाख शुक्ल-द्वादशी/विक्रम संवत-2080

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देहरादून

छह की तीव्रता का भूकंप 21 मीटर तक खिसका सकता है जोशीमठ की जमीन

दून विवि के भूगर्भ विभाग की ओर से किए गए शोध में हुआ खुलासा, शोध के लिए चमोली व उत्तरकाशी में आए भूकंप का लिया गया है उदाहरण

वान्या दीक्षित

देहरादून। जोशीमठ और भटवाड़ी में चमोली और उत्तरकाशी की तरह भूकंप आता है तो वहां की जमीन 20 से 21 मीटर तक खिसक सकती है। यह खुलासा दून विश्वविद्यालय के भूगर्भ शास्त्र विभाग के असिस्टेंट प्रोफेसर डॉ. विपिन कुमार की ओर से किए गए शोध में हुआ है।

डॉ. विपिन कुमार ने कहा कि चमोली में 1999 और उत्तरकाशी में 1991 में तबाही मचाने वाले भूकंप आए थे। चमोली में आया भूकंप जोशीमठ से सिर्फ 26 किलोमीटर दूर और उत्तरकाशी में आया भूकंप भटवाड़ी से करीब 20 से 30 किलोमीटर दूर था। पिछले दिनों जोशीमठ में दरारें आने के बाद उन्होंने इस शोध को शुरू किया था। यह शोध यूरोपियन जियो साइंस यूनियन के जनरल नैचुरल हैजड्र्स एंड अर्थ सिस्टम साइंसेज में अप्रैल 2023 में प्रकाशित हो चुका है।

1999

में चमोली और 1991 में उत्तरकाशी में आए थे तबाही मचाने वाले भूकंप

खास खबर

डॉ. विपिन ने बताया कि जोशीमठ और भटवाड़ी मेन सेंट्रल थ्रस्ट (एमसीटी) वाले एरिया में बसा हुआ है। जहां पर भूकंप आने की संभावना अधिक रहती है। शोध में जोशीमठ के लिए चमोली में 1999 में आए भूकंप का रिफरेंस और भटवारी के लिए उत्तरकाशी में 1991 में आए भूकंप का रिफरेंस लिया गया है। इसका डाटा स्ट्रॉन्ग मोशन वर्चुअल डाटा सेंटर से लिया गया।

इस अध्ययन को डीएसटी प्रायोजित परियोजना की ओर से फंड दिया गया था, जिसे हेमवती नंदन बहुगुणा गढ़वाल विश्वविद्यालय के प्रोफेसर यशपाल सुंदरियाल ने प्राप्त किया था।

शोध में निकलकर आए चार कारण

- जोशीमठ और भटवाड़ी के करीब उत्तरकाशी और चमोली में भूकंप आ चुका है।
- यहां पर लोग खेती भी करते हैं, ऐसे में पानी का ज्यादा उपयोग होता है। पानी रिसकर जमीन में जाता है। इससे जमीन खिसकने का खतरा बढ़ जाता है।
- इन इलाकों में सीवेज का पानी की निकासी के लिए न उपयुक्त नालियां बनी हैं और न ही कोई टैंक है। पानी खुला बहता रहता है।
- यह दोनों एमसीटी वाले इलाके हैं। यहां पर चटियां पास होती हैं, धरातल (टॉपोग्राफी) ऊपर होता है। यहां पर हवाओं में नमी अधिक होने की वजह से बारिश अधिक होती है।

100 मिमी से अधिक बारिश होने पर चार से छह मीटर तक खिसक सकती है जमीन

शोध में जोशीमठ और भटवाड़ी से सैंपल लेकर वहां के एरिया को कंप्यूटर की मदद से तैयार किया गया। इसके बाद यहां पर बारिश का पानी, सीवेज वाले पानी और भूकंप का कंपोनेंट डालकर देखा कि अगर भविष्य में यहां पर भूकंप आ जाए तो यहां की जमीन अपने धरातल से कितना अलग हट सकती है। सिर्फ बारिश और सीवेज वाले पानी का निकासन वाली वजह देखेंगे तो एक दिन में 100 मिमी से अधिक बारिश होने पर यहां की जमीन 4 से 6 मीटर तक खिसक सकती है। वहीं अगर छह मैग्नीट्यूड से अधिक का भूकंप आता है तो यहां की जमीन 20 से 21 मीटर तक खिसक सकती है।

03 माह तक लग सकते हैं जमीन खिसकने में

वैज्ञानिक दृष्टि से यह देखा गया है कि किसी भी पहाड़ी क्षेत्र के ऊपर बने धरातल पर अधिक पानी बहता है तो वहां की जमीन खिसकने में एक से दो दिन और दो से तीन महीने भी लग सकते हैं।

दावा- यह अपनी तरह का भारत का पहला शोध

डॉ. विपिन कुमार का दावा है कि यह भारत का पहला शोध है, जिसमें यह बताया गया है कि बारिश होने, सीवेज के पानी का ज्यादा बहाव होने या भूकंप आने पर जमीन कितना खिसक सकती है।

पर्यटन भी बड़ा कारण

डॉ. विपिन ने बताया कि इन स्थानों में पर्यटन भी स्थिति में बदलाव का एक बड़ा कारण है। जोशीमठ में नौ से 10 हजार लोग रहते हैं। पर्यटन सीजन में यहां अचानक 20 से 30 लाख लोग आ जाते हैं। इससे यहां की स्थिति में काफी बदलाव हो रहा है। यहां पर मई से सितंबर तक पर्यटकों की भीड़ रही। सितंबर के बाद अक्तूबर-नवंबर छोड़कर दिसंबर से जमीन खिसकने लगी थी और दरारें आना शुरू हो गई थीं।

एक घर से रोज 70 लीटर पानी बह रहा

जोशीमठ में देखने को मिला कि एक घर में जहां चार से पांच लोग रहते हैं, वहां पर एक दिन में 60 से 70 लीटर पानी बहता है। वहीं, पर्यटन बढ़ने पर अगर 20 से 30 लाख लोग आ जाते हैं तो कितना पानी बहेगा इसका अंदाजा लगाया जा सकता है। इस पानी के जमीन में जाने की वजह से वह कमजोर हो जाती है।

Around 132 families were staying in state-run shelters in Joshimath till the end of April 2023. Most of them were initially asked to vacate these shelters which included government buildings, hotels and homestays by April 30. In the beginning of May some took up rented accommodation, others went to relatives homes and quite a few returned to their cracked houses since they were left with no other option . However, some families were later offered alternative places to stay.

TOI reported on May 9, 2023 that several houses across the three wards which were earlier under green zone and considered safe by experts, have started developing cracks. In some places, existing cracks have widened with the recent spells of rain adding to the problem. Narendra Tamta, a resident of Gandhinagar whose house was put under “green zone” during the initial survey by a team of experts from Central Building Research Institute (CBRI) said that “new cracks have appeared in my house and the existing ones have widened in the fortnight. After noticing fresh cracks, I had submitted an application at the tehsil office following which a fresh survey was conducted by a team from the district administration. They said that these cracks are not serious”.

Joshimath Bachao Sangharsh Samiti (JBSS), a collective of concerned citizens organised a large-scale mashal protest march on May 11, 2023. The protest aimed to amplify their long standing demands, which include the rehabilitation of all affected families, the cancellation of NTPC's Tapovan Vishnugad hydel project, and the Helang Marwari bypass project.

Hindustan Times reported on May 19, 2023 that the Uttarakhand government gave permission to start the construction work on Helang Marwari bypass. The work on the project was stopped on January 5, 2023 due to buildings developing cracks in the town of Joshimath.

{ HELANG-~~MARWARI~~ BYPASS }

Govt okays construction of bypass in Joshimath

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MUSSOORIE: The Uttarakhand government has given permission to start the construction work on Helang-Marwari bypass in Chamoli district's Joshimath town, people familiar with the matter said on Thursday.

The work on the project was stopped due to buildings developing large-scale cracks in the town. The construction work on the five km long Helang-Marwari bypass was stopped on January 5 after the cracks developed in houses in Joshimath, which was followed by an agitation by the residents under the banner of the Joshimath Bachao Sangarash Samiti.

Confirming the development, Ranjit Kumar Sinha, secretary disaster management said that based on the reports of experts from Indian Institutes of Technology (IIT) Roorkee, the public works department and Tehri Hydro Development Corporation Limited (THDC) , conditional permission has been given for the construction of the Helang-Marwari bypass.

"We have told the concerned agencies that there should be no impact on Joshimath due to construction activities and no blasting should be carried out that affects Joshimath in any way. Our officials will also conduct checks on their level to ensure that construction is carried out without any impact on Joshimath," the secretary said

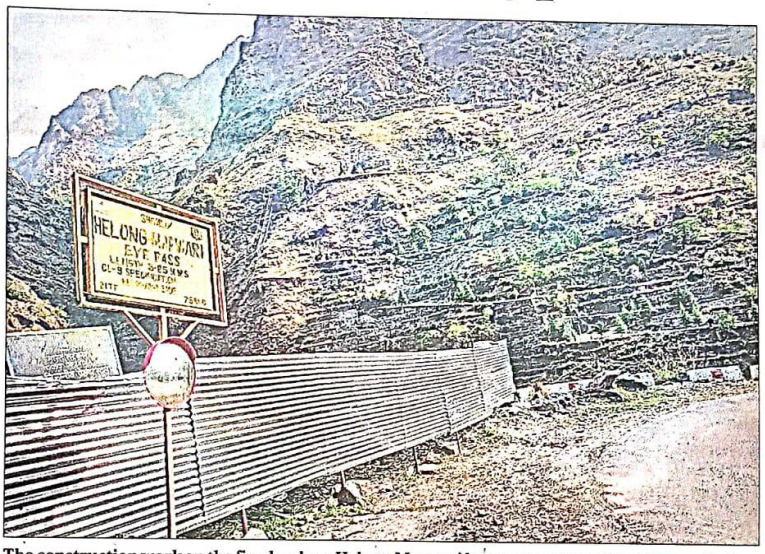
Reacting to the development, Atul Sati, convener of Joshimath Bachao Sangarash Samiti said, "It is sad that approval has been given to the construction of Helang Marwari bypass which is being constructed right at the base of Joshimath town and any blasting activity will adversely affect the town triggering further ouster of people from their houses due to the widening of cracks".

"To give the approval prior to making the report public by eight government agencies that were assigned the task to assess the damage to the town and the future recommendations, is not right," said Sati.

The residents of Joshimath are also opposing the move as it will affect their livelihood if the Char Dham yatra is conducted via the Helang-Marwari Bypass road.

Kailash Joshwal, municipal ward member of Gandhinagar in Joshimath, said, " The permission for the construction of the bypass road by the government has instilled apprehensions among the residents of Joshimath as a whole. The economy of a large section of people here is dependent on Char Dham yatra. With the bypass, it will be severely affected."

"The bypass road will hit local businesses and rob them of livelihood as the yatra instead of passing through the town will pass directly to Badrinath shrine through the proposed bypass," Joshwal added.



The construction work on the five-km-long Helang-Marwari bypass was stopped on January 5 after the cracks developed in houses in Joshimath. HT PHOTO

19 MAY, 2023
HINDUSTAN TIMES

The High Court of Uttarakhand permitted NTPC to carry out civil work in the tunnel at Joshimath on May 23, 2023 with certain restrictions. The court said that no explosives and heavy machinery would be used for maintenance work and cleaning of the tunnel.

2. Tiffin Top site developed cracks, closed for tourists

Hindustan Times reported on May 11, 2023 that the Nainital district administration has banned tourist visits to Tiffin Top for safety reasons after the site developed cracks. Tiffin

Top is situated at a height of 2,290 metres and is a favourite among tourists as it provides a panoramic view of Himalayan peaks.

Nainital is one of the most landslide prone areas in Uttarakhand and has a history of geological disturbances. In 1880, as many as 151 people were killed in a major landslide in Nainital's Sher Ka Danda area. Nainital's Baliyanala has been witnessing landslides for the last 20 years, and with other areas around Nainital witnessing landslide and cracks, experts have termed these as warning signs that all is not well with the geographical terrain in the area.

{ NAINITAL }

Tiffin Top site develops cracks, closed for tourists

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RUDRAPUR: The Nainital district administration has banned tourists' visits to Tiffin Top for safety reasons after the site developed cracks, officials said.

After boating in Naini Lake,Tiffin Top, also known as Dorothy seat site, is a favourite among tourists as it provides a panoramic view of Himalayan peaks.

Nainital district magistrate (DM) Dhiraj Garbiyal said, "We have banned visits to Tiffin Top due to the safety of the tourists as it has developed cracks. I have also instructed authorities concerned to erect fencing and put up caution boards near the site. I have requested the government to send a high-level technical team to inspect the site and give its recommendations about the site."

Tiffin Top is situated at a height of 2,290 metres in Nainital and 4 km from Mallital. It offers a picturesque view of Nainital and the surrounding hills. It is famous for hiking, picnic spots and viewpoints. It is a favourite point for photographers as well. Tourists take an easy hike or hire ponies to reach there.

Tiffin Top or Dorothy seat is named after British Army officer Col. JP Kellett's wife Dorothy. She was an artist/painter who used to frequently work on her paintings sitting at this place. After her death, Col. Kellett built the site in memory of her.

A joint team, comprising geologists and officials from irrigation, PWD, revenue, forest and disaster management departments, conducted an inspection at the Tiffin Top on Monday on the instructions of the DM.

After conducting the inspection, the team submitted a report to the DM and gave suggestions that the development of cracks needs to be checked.

"The ban will remain in effect till a high-level technical team inspects and gives its expert opinion. We will take the decision to lift the ban or not based on the team's opinion," the DM added.

Band Stand of Mallital in Nainital has also been closed as it had developed cracks a few months ago.

Nainital, which is one of the most landslide-prone areas in the state, has a history of geological disturbances.

In 1880, a many as 151 people were killed in a major landslide in Nainital's Sher Ka Danda area.

Nainital's Baliyanala has been witnessing landslides for the last 20 years, but since 2018, Nainital and areas around it are again witnessing landslides and cracks on the roads, with experts terming them as warning signs that all was not well with geological terrain in the area.

Nainital, which has an area of mere 11.73 sq km, the population has swelled, from 7,589 in 1881 to 41,377 according to the 2011 census, to over 48000 at present.

The number of constructions/buildings in Nainital, most of them on slopes has increased from 520 in 1901-02 to over [illegible]000 at present, including over 150 hotels and resorts.

Tiffin Top is situated at a height of 2,290 metres in Nainital . HT PHOTO

HINDUSTAN TIMES
MAY 11, 2023

3. Tungnath, world's highest Shiva temple, tilting by 6-10 degrees

Times of India reported on May 17, 2023 that a study conducted by the Archeological Survey of India (ASI) has found that the Tungnath temple, the world's highest Shiva temple which faces north and is located at an altitude of 12,800 feet in Rudraprayag district is tilting by around five to six degrees and the smaller structures in the complex by 10 degrees.

ASI officials informed TOI that they have apprised the central government about the findings and suggested that the shrine be included as a protected monument. The government has started the process of declaring it as a monument of national importance and issued a notification seeking objections from the public as a matter of procedure.

Tungnath, world's highest Shiva temple, tilting by 6-10 degrees: ASI

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Dehradun: A study conducted by the Archaeological Survey of India (ASI) has found that the Tungnath temple, which faces north and is located at an altitude of 12,800 feet in Rudraprayag district of Garhwal Himalayas, is tilting by around five to six degrees and the smaller structures in the complex by 10 degrees.

ASI officials told TOI that they have apprised the central government about the findings and suggested that the shrine be included as a protected monument.

"Following this," an official said on Tuesday, "the government has started the process of declaring it as a monument of national importance and issued a notification seeking objections from the public as a matter of procedure."

▶Continued on P 3

ASI officials have not ruled out the possibility of subsidence, owing to which the alignment of the temple may shift

TIMES OF INDIA
MAY 17, 2023

'Detailed work prog to follow inspection'

▶Continued form P 1

Regarding the measures ASI plans to take, Manoj Kumar Saxena, superintending archaeologist of ASI's Dehradun circle, said, "First, we will find the root cause of the damage in case it can be repaired immediately. Besides, a detailed work programme will be prepared after a thorough inspection of the shrine."

According to the officials of the site conservation branch of ASI, once the inspection note is made, they will decide on the further course of action. "Condition statement is the key in such cases which helps us to determine whether conservation is required or the monument needs restoration, and how much can be done," Saxena said. ASI officials have not ruled out the possibility of subsidence either, owing to which the alignment of the temple may shift. They said that if needed the damaged foundation stone will be replaced after consultations with experts. For now, the agency has fixed glass scales – that can measure the movement – on the walls of the main temple. Depending on what it shows in the coming days, "necessary measures will be taken immediately".

Tungnath is regarded as the world's highest Shiva temple, built by the Katyuri rulers in the 8th century, and is visited by lakhs of pilgrims every year. It is under the administration of the Badri Kedar Temple Committee (BKTC), which manages the Badrinath and Kedarnath shrines.

"A letter has also been sent to BKTC in this regard. However, we are yet to receive a response from them," Saxena said.

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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PS : Errors or omissions in UDAS documentation, if any, are purely unintentional. In case any errors or key omissions are detected or any fresh updates are available for events that are already documented, SDC Foundation may kindly be notified at email id contactsdcuk@gmail.com. We shall make the necessary corrections in subsequent versions of the monthly reports of UDAS.