



*Unauthorized Stone Mining Destroying Rajmahal Hill Ecosystem*

## Commentary

The twin crises of climate change and natural disasters are no longer distant threats—they are here, striking with greater ferocity every year. In 2025, India stood at the epicenter of nature's fury. The monsoon unleashed unprecedented floods and landslides across Jammu & Kashmir, Punjab, Himachal Pradesh, Uttarakhand, Maharashtra, Delhi, and the Northeast. By August, hundreds had lost their lives, thousands were displaced, and vast stretches of farmland and infrastructure lay in ruins.

Punjab suffered the worst blow. Relentless rains,

overflowing rivers, and excess dam discharges drowned over 2,000 villages, affecting more than three lakh people. At least 43 lives were lost, and over 1.75 lakh acres of farmland vanished under water. Entire crops of paddy, cotton, and sugarcane were destroyed, while the carcasses of drowned cattle turned fields into graveyards. The devastation is among the worst in recent memory.

Experts are clear: these calamities are not accidents of weather alone. Reckless development, ill-planned infrastructure, and ecological neglect have magnified

the impacts of a changing climate. The Punjab floods of 2025 are not an isolated tragedy—they are a warning. India has already entered an era of climate-driven disasters.

What is most disturbing is the silence that follows. Government, media, and society treat such disasters as routine, responding with short-term relief but ignoring long-term preparedness. This indifference is dangerous. Unless we change course—strengthening climate resilience, protecting ecosystems, and planning development responsibly—the misery of ordinary people will multiply.

If we fail to act now, the floods of Punjab will soon look small compared to what lies ahead.

### **NEWS**

#### **Rajmahal Hills in Crisis**



The Rajmahal Hills and their ecology are facing unprecedented destruction. In June 2025, Mr. Sujit Choudhury, along with colleagues from JVP, travelled across the Rajmahal Hills and their surrounding areas to assess the environmental and ecological situation. What they found was alarming: both the hills and the

Pahariya and Santal communities who depend on them are trapped in a deepening crisis.

For centuries, the Rajmahal range has stood like a long basalt wall on the western edge of the central Bengal basin. The Ganga flows along its northern and eastern flanks before entering Bengal. The dense forest cover once sustained perennial streams, feeding rivers such as the Gumani and Bansloi, which carried life to the plains. Today, most of these rivers run dry during the summer.

The team began their journey from Pakur on the eastern border of the hills. After crossing the Gumani River near Gumani Village, it reduced to a trickle—they reached Barharwa, where large-scale basalt stone mining scars the hill face once was densely covered with forest. Further north, near Rakhsa Bandh village, more stone queries were observed.

Between Rajmahal town and the Ganga, fertile lands is covered with paddy cultivation. The Udhwa, a natural Wetland and Bird sanctuary, formed from groundwater seepage of the hills, is now severely degraded. Vast portions have been encroached for jute cultivation, with little protection from the Forest Department.

The historic city of Rajmahal, founded in the late 16th century, once served as the capital of Bengal. Today, however, it is a shadow of its past. Poorly maintained roads, chaotic traffic, and crumbling monuments define the town, with only the Baradari palace standing in some dignity courtesy ASI preservation.



On the other side of the river lies Manik chak ferry ghat in West Bengal's Malda district, connected by ferry with Rajmahal. It is the main lifeline of transport of this area. A new national highway is being built between the Ganga and the hills, further fueling settlement expansion and deforestation mainly by migrants from Bihar and Bengal.

### **Mining Devastation**

The iconic Moti Jharna waterfall, named by the Mughals for its pearl-like droplets, now trickles weakly, its source ravaged by nearby mining. This site marks the beginning of nearly 35 kilometers of relentless stone extraction stretching to Mirza Chauki. The northern ridges—the highest in altitude—are being hollowed out, with heavy mining equipment and vehicles plying their summits day and night.

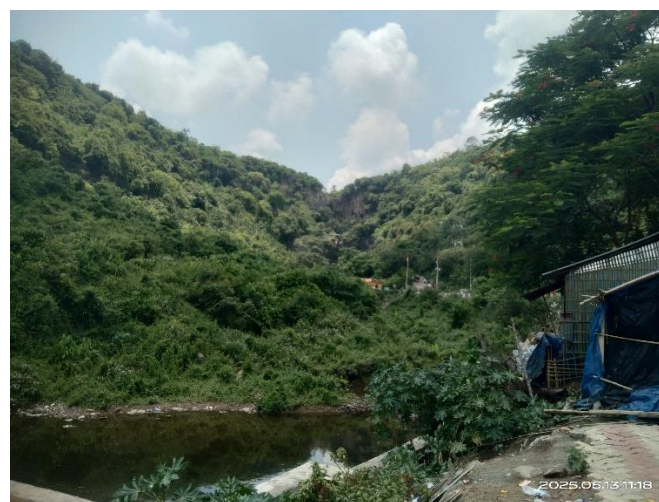
Despite orders from the National Green Tribunal in 2019 and 2020 directing the Jharkhand Pollution Control Board to shut down illegal operations, mines continue to operate unchecked, ripping apart the Rajmahal Hills.

The impact is visible in Sahibganj, where air pollution is suffocating. Roads, drains, and civic amenities are in disrepair, while settlements like Mirza Chauki are choked with trucks and mining dust. Even historic landmarks such as the Teliagarhi Fort are collapsing, surrounded by quarries gnawing at the hillsides.

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*Moti Jharna*

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Currently, 17 mining zones exist across the range—two for coal and fifteen for stone. Together they consume over 5,200 hectares, including 1,650 hectares under coal mining. 8 Stone mines are on the North of Rajmahal hills bordering Sahib Gaunj Town, 7 stone mines are on the Eastern face of Rajmahal towards Ganga. One coal mine is in Alubera near Amrapara in the south, and the second one is Rajmahal/Lalmatia coal mines in the West near Lalmatia.

The Rajmahal Fossil Park at Mandro preserves Jurassic-era plant fossils, a priceless heritage now endangered by encroaching mining. The south-eastern slopes, from Tin Pahar to Lithipara, show the worst deforestation. While dense forests remain on the north-western slopes near Teliagarhi, mining threatens to erase them as well.

Maximum deforestation is noticed in the South-Eastern face of the Rajmahal hills from Tin Pahar to Lithipara area. In the North western Face of Rajmahal near Teliagarhi dense forest cover is noticed but with heavy mining activities the same will be destroyed soon.

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### *Plant fossils at fossil Park*

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On their return through the Gumani River valley, the team passed Santal villages at Panchkatiya, Berhait, and Bhognadih—the historic heartland of the Santal Hul of 1855. Here, basic services such as education and healthcare remain abysmal. Roads built to transport coal, stone, and labor are in good condition, but the living standards of tribal communities continue to decline. Seasonal water scarcity, deforestation, and shrinking livelihood opportunities deepen their vulnerability.



IRBMS

*Integrated River Basin Management Society*



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**The Rajmahal Hills, once a bastion of biodiversity, water security, and tribal history, now stand at a crossroads. Unless urgent action is taken to halt mining, restore forests, and safeguard communities, this biodiversity rich only basalt hill range of eastern India may crumble—taking with it not only ecological balance but also the livelihoods and heritage of generations of tribes living there.**

## **RIVERS OF INDIA**

### **Godavari River**

#### **(Part - 6 )**

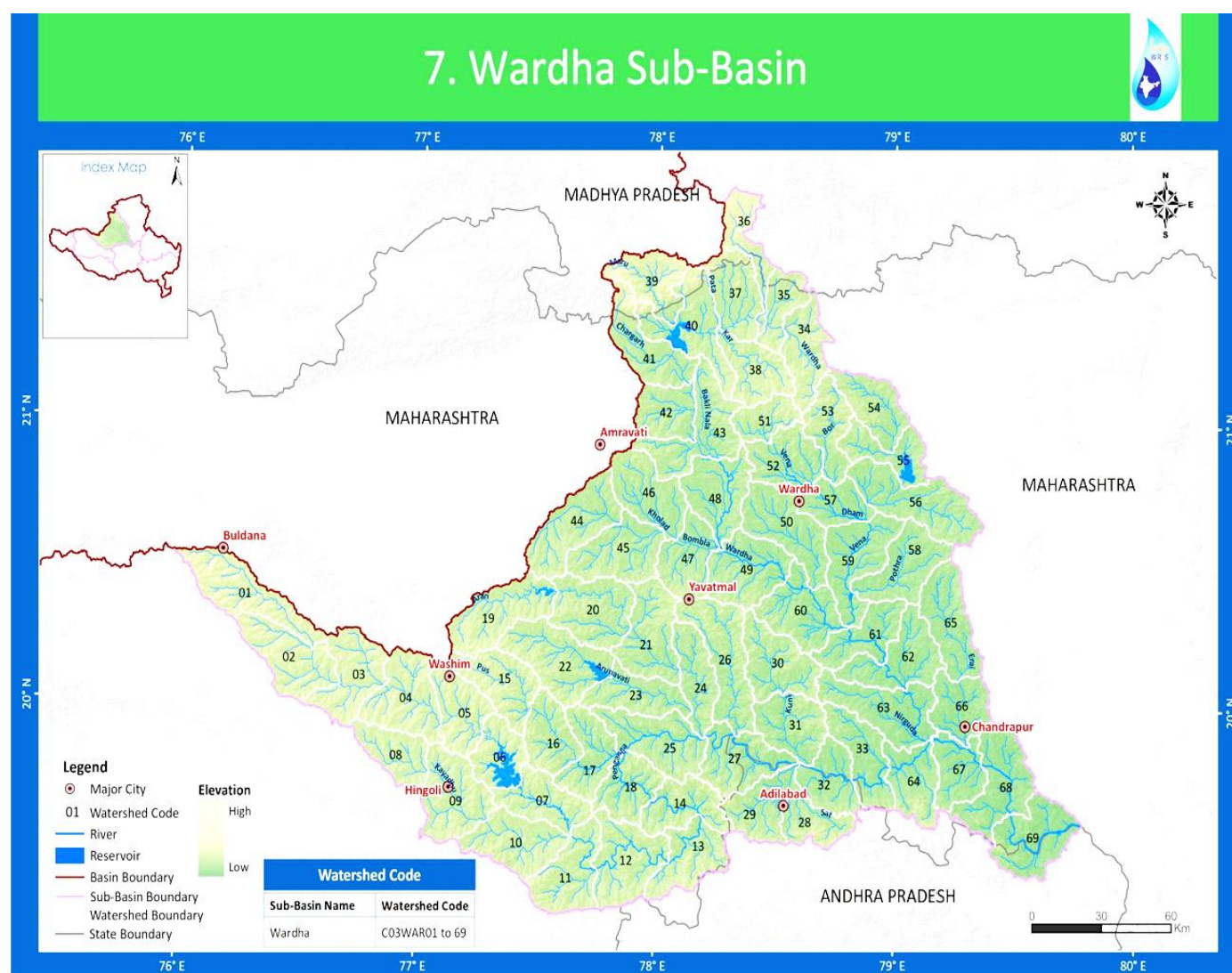
The Wardha River of the Wardha Sub-basin, an integral part of the larger Godavari River Basin, is the principal river of the sub-basin, originates in the Satpuda ranges of Betul district in Madhya Pradesh. The Sub-basin is geographically located between

latitudes 19°18'N and 21°58'N and longitudes 77°20'E and 79°45'E. After flowing for approximately 32 kilometers in Madhya Pradesh, the Wardha River enters Maharashtra traversing a major portion of its 538-kilometer course. The river flows in a north-to-east direction through Wardha district before merging with the Wainganga to form the Pranhita River, a key tributary of the Godavari near Chandrapur district.

The total watershed area of the Wardha Sub-basin up to its confluence with the Wainganga River is about 46,242.09 square kilometers. This basin includes 69 defined watersheds, with each sub-watershed ranging in size from 361 to 946 square kilometers. The sub-basin is hydrologically significant due to the number of rivers originating here, including the Penganga, Kayadhu, Arunavati, Aran, Wardha, Vena, and Yashoda rivers. The presence of these rivers makes the region crucial for water resource planning and of rivers originating here, including the Penganga, Kayadhu, Arunavati, Aran, Wardha, Vena, and Yashoda rivers. The presence of these rivers makes the region crucial for water resource planning and irrigation development.

The Wardha Sub-basin spans across 14 districts, encompassing around 8,440 villages, and supports a population of more than 9.2 million, distributed over nearly 2 million households. It includes major towns and cities such as Washim and Hingoli in the west, Adilabad in the south, Wardha and Chandrapur in the east, and Yavatmal at the center. The region has a





strong agricultural importance, based on its black cotton soil characteristic, especially in Wardha district, lying on volcanic trap rock formations. This soil type is particularly suitable for crops like Cotton, soybean, paddy, vegetables, and fruit crops, although the area's agricultural success is heavily dependent on monsoon rainfall.

Climatically, the sub-basin experiences a tropical monsoon weather pattern, with average annual rainfall between 800 mm and 1,200 mm. However, despite relatively decent rainfall levels in some parts, large areas remain underserved by irrigation infrastructure. Many districts within the sub-basin suffer from low irrigation coverage, often below 15 %.

This limited access to reliable water supply results in frequent crop failures, especially in rain fed areas. In contrast, regions with better irrigation support see significantly higher productivity, with crops such as paddy, vegetables, and fruit performing well. Notably, the correlation between improved irrigation and reduced agricultural distress is evident, with less than 40 percent of farmer suicides occurring in areas where irrigation is prevalent.

Among major irrigation schemes, the Upper Wardha Irrigation Project stands out as a completed initiative. It involved the construction of a dam across the Wardha River, and provides irrigation to a Culturable Command Area (CCA) of 83,300 hectares, with an ultimate irrigation potential of 80,250 hectares, mainly benefitting the Amravati and Wardha districts. This project has significantly contributed to improved agricultural performance in its command area. Another key project is the Lower Wardha Irrigation Project, which is still under construction. Situated near Varud Dhanodi in Wardha district, the project aims to irrigate approximately 66,000 hectares upon completion. Initially launched under the Accelerated Irrigation Benefits Programme (AIBP) as part of a special package announced in 2006-07, the project experienced delays due to funding and land acquisition issues. By March 2011, the project had created an irrigation potential of 15,379 hectares, and further development is ongoing. The infrastructure includes a large dam equipped with spillways and

radial gates, supported by a network of irrigation canals. The Upper Penganga Project is another significant scheme within the sub-basin. Like the Upper Wardha, it falls under the AIBP and aims to improve irrigation coverage in its command area, supporting diversified agriculture and reducing dependency on the monsoon. Despite the scale of these initiatives, progress has been uneven, with many schemes suffering from implementation delays and administrative inefficiencies.

To address these persistent challenges, a multi-pronged strategy is essential. This would include the timely completion of pending projects, expansion of micro-irrigation systems, and investment in groundwater recharge structures like farm ponds and check dams, and promotion of water-efficient agricultural practices. Equally important is the role of local institutions such as Water User Associations (WUAs), which can help ensure equitable distribution and sustainable maintenance of irrigation infrastructure.

Finally the Wardha Sub-basin holds tremendous potential for agricultural and economic transformation through effective water resource management. With its rich hydrology, extensive river network, and fertile soils, the region is well-positioned to benefit from strategic investments in irrigation infrastructure. However, realizing this potential requires overcoming systemic inefficiencies, ensuring timely project execution, and empowering farmers



through technology and institutional support. If these steps are taken, the sub-basin can evolve into a model for sustainable and resilient agriculture in central India.

**Source:**

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### **Special Feature**

## **The Himalayan disasters and climate change – a new reality**

The Himalayas being young fold mountains are sensitive to different types of natural events for ages. Himalayan Mountain acts as a barrier to the south west monsoon wind and our country gets monsoon rainfall. Climate change as well as human activities have modified the rainfall pattern, micro climate and ecosystem in this sensitive areas leading to more frequent disasters and damages.

This year the upper Himalayan stretch extending from west to east has been struck by natural disasters one after another. Starting from Sikkim, Darjeeling in West Bengal, Dharali in Uttarkashi, Chamoli in Uttarakhand, Shimla, , Jammu and Kashmir – all Himalayan states were hit by devastating cloudburst, flash floods, glacial lake outburst, mudslide, landslides – causing huge loss of property , human lives and live

stocks.

Flash floods have been common in Himalayan gradients but since last ten years Glacial Lake Outburst Flows have become a new normal phenomenon with massive mudflows and debris. So the disasters which were natural in yesteryears, management and control of which are more challenging nowadays.

Though the causes of all the calamities are varied yet the consequences are more or less similar. Here is an honest endeavour to find out the causes of these unmanageable disasters and remedial measures for that.

It starts with the Shimla floods continuing from July end to August 2025.

### **Himachal Pradesh Flood Disaster 2025**

Himachal Pradesh frequently mentioned as “Devbhumi “ or the “ Land of Gods” is well known for its spectacular natural beauty. For last few years the state of Himachal Pradesh has been facing the wrath of nature in the form of floods and landslides with continuous rainfall. These events have exposed the vulnerabilities created by unregulated construction, slope destabilization, and inadequate preparedness.

This year the months of June, July, and August have been one of the most destructive monsoon seasons Himachal Pradesh has faced in recent years. It began with heavy rainfall and flash floods in late June, then quickly escalated into a humanitarian and infrastructural crisis by July and August. Districts like





Mandi, Kullu, Kangra, Kinnaur and Chamba took the brunt. In just two months, the state recorded 91 flash floods, 45 cloudbursts, and 93 major landslides.

By the end of August, official reports confirmed at least 320 deaths and 40 missing persons linked to rain-related disasters such as landslides, flash floods,

National Highways like NH-03, NH-05, and NH-305, over 1,400 damaged electricity transformers disrupting power supply across large areas, more than 400 disrupted water supply schemes leaving thousands without clean drinking water, over 700 fully or partially destroyed houses affecting daily life of people, thousands of shops, cowsheds, and small businesses.

*Debris and silt near damaged houses at a flood-affected area in Mandi District (Source: NDTV)*



cloudbursts, electrocution, and drowning. In addition, 152 lives were lost in road accidents caused by slippery conditions and landslide debris.

Within these three months, overall infrastructure losses touched 3,000 crores, with roads, irrigation systems, and power lines suffering the most. Damages include more than 670 roads blocked including vital

The scheduled annual Manimahesh Yatra in Chamba district was stalled with 7,000–8,000 pilgrims stranded due to blocked roads. Four helicopters helped evacuate over 6,000 of them safely while efforts continued to rescue the remaining thousands.

In Manali, the Beas River surged through the landscape sweeping away sections of Old Manali with

wrecked bridges and flooded shops and homes. Residents described water surging into neighborhoods. The swollen Manalsu drain caused several

Disaster Response Force (NDRF), State Disaster Response Force (SDRF), and the Army were deployed to carry out rescue operations.



*Himachal Pradesh grapples with massive flood*

drinking water schemes to collapse.

The agricultural sector, especially apple farmers in Shimla and Kullu, was worst hit as a result of the delayed transportation of produce due to blocked highways and damaged link roads leading to heavy losses at a critical time of the harvest season. Rural areas saw nearly 1,850 livestock deaths and more than 25,000 poultry birds lost. The state government declared a statewide emergency. The National

Helicopters, satellite phones, and temporary shelters were deployed to restore communication and reach isolated communities. Despite these measures, operations were repeatedly hampered by continuous rainfall and new landslides.

These devastating incidents are not the natural occurrences only but the cumulative result of the complex interplay among nature, rising anthropogenic activities specifically increasing tourism escalating the



frequency and severity of disasters. Though heavy monsoon rains, cloudbursts and shifting glaciers are the key players yet the unplanned human actions alter these controllable weather phenomenon into ravaging disasters.

Heavy monsoon rainfall from June to September is the prime cause of Himachal floods. The mountainous terrain all around cause quick rainwater runoff thereafter swelling the rivers and streams within a short period of time leading to flash floods and subsequent landslides. Under the influence of climate change phenomenon, duration and intensity of rainfall is increasing.

Himachal is the home of glaciers with four primary concentrations of glaciers –

- I. Bara Banghal - located in and around Kangra, Kullu, Chamba and Lahaul valleys contributing the River Ravi
- II. In and around Lahaul Spiti and Kullu valley - feeding glacial tributaries of River Beas
- III. Around the tri-junction of Kullu, Kannaur and Spiti- feeding the tributary of River Beas and Sutlej
- IV. Chandra valley in Lahaul

**Glacial Lakes** -These glaciers create **glacial lakes** from melted water and glacial moraines form the dam wall of these lakes. These lakes are subject to sudden breaches of its wall. Increasing temperature accelerates melting of glaciers increasing the accumulated water volume in these lakes. Any

weakening of an ice or moraine dam or wall immediately causes sudden release of enormous volume of water which gushes downstream with very high velocity following the steep gradient with lots of debris, boulders and moraines smashing the settlements and infrastructure falling on its way.

**Cloudburst** -The climate change has speeded up the water cycle with more evaporation and moisture in the air. The phenomenon of cloudburst is a sudden heavy downpour in a localized area accompanied by hail and thunders as a result of quick condensation of warm moist air coming in contact with the cooler air very often leading to flash floods and subsequent landslides. The mountainous state of Himachal Pradesh is highly vulnerable to the flash floods due to cloudburst, the frequency as well as intensity of which has been increasing attributed by climate change weather condition.

**Temperature rise** - Due to global temperature rise, the Himalayan glaciers are also melting very fast with increasing water runoff further worsening the effects of cloudburst and flash floods.

**Indiscriminate felling of trees** and cutting down forests on mountainous terrain damage the entire Himalayan ecology causing more soil erosion. The absence of anchorage of soil by plant roots and diminishing infiltration capacity of soil trigger fast runoff over the hilly terrain thus leading to supply of huge amount of silt in the streams and rivers. This in turn increases the possibility of floods carrying big



boulders and mud flows to the downstream areas and increasing runoff surging the vulnerability as well as ferocity of violent deluge and landslides.

**Encroachment of old river beds** by settlements is another factor for damage to property and loss of lives during floods in bigger scale. People make houses and form settlements in the old river channels which are not followed by rivers in recent past. When there is more volume and velocity of water, the river may take its old path while flowing through the high gradients of mountainous terrain of gorges and washes away everything on its way with violent gigantic flow.

**Tourism** - The pressure of inflow of tourists also brings the unplanned and uncontrolled building activities. Due to high pressure for accommodation, hotels, guesthouses, homestays, uncontrolled construction activities have come up all over even in the environmentally fragile areas. The result is cutting trees, clearing pristine forest cover which absorbs raindrops and anchor soils. Construction work even on the hill slopes, areas with high gradient triggers instability in the soil and areas become highly vulnerable to landslides, flash floods particularly during monsoon. The improper way of disposing of waste building materials further clog the natural drainage system, river beds and streams and contribute to floods in Himachal Pradesh.

**Vehicular Pollution** - The inflow of tourists have increased vehicular pollution to this Himalayan state. The narrow roads suitable for lesser number of lighter

vehicles are congested with rows of tourist vehicles everyday with increased vehicular emissions not only degrading air quality but also attributing chemical reactions to change local climate and therefore rainfall pattern. The continuous vehicular movement on unstable slopes also aggravate the susceptibility to soil erosion and landslides.

**Solid Waste and Sewage** - The flourishing tourism creates a huge amount of solid waste and sewage. The result of littering wastes, scattered plastic bottles and wrappers are piled up across valleys and river beds thus choking the natural water flow contributing to waterlogging and flash floods. Even during peak tourism season, due to inadequate sewage treatment capacity untreated liquid wastes are being discharged into rivers contaminating the water flow thus disturbing the ecological balance.

**Road widening** - Experts have also warned against the indiscriminate widening of roads on hilly slopes that upset and weaken the stability of rocks of the mountainous terrain which protects the State.

For the last few decades, the uncontrolled tourism and allied activities causing ecological imbalance is transforming Himachal Pradesh from an abode of breathtaking quiet Himalayan landscape into highly vulnerable flood region. The ecosystem is extremely fragile to resilient back the recent complex weather pattern so that a little change of weather which could be controlled in earlier years transforming into a catastrophic deluge in Himachal Pradesh.





## Building Resilience

A sustainable comprehensive holistic approach to address flood calamity is need of the hour. The tourism is not to be blamed but it should be converted into a sustainable reality with due respect to Himalaya's ecological tradition.

- Zoning of carrying capacity is crucial for the tourist spots which will scientifically identify the capacity of that area to support maximum number of tourists, vehicles, construction activities at a time without violating the environment.
- System of Permits and Quotas may be implemented for fragile areas to document the number of tourist entry
- Strengthening of public transport in different categories to choose over private vehicle
- Sustainable development works including roads throughout the State keeping in view the geological, geographical and environmental perspective of Himachal Pradesh.
- Building by-codes for any new construction discouraging the activities on cliffs and slopes

- Afforestation programme with plants indigenous to Himachal Pradesh must be taken up in war footing pace in which communities must be involved to plant and protect the saplings.
- Forest encroachment must be detected and those must be brought under forest cover again.
- Poaching and illegal logging and clearing must be stopped.

### Source:

<https://www.ndtv.com/india-news/>

<https://www.thehindu.com/news/national/himachal-pradesh/>

<https://www.deccanherald.com/india/himachal-pradesh>

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