

**BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL**

**PRINCIPAL BENCH, NEW DELHI**

**ORIGINAL APPLICATION NO. 642 OF 2024**

**IN THE MATTER OF:**

News Item titled "Land sinking: A new environmental challenge in J & K" appearing in greaterkashmir.com dated 29.04.2024

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Filed By:-



**Filed by Adv. Rajkumar**

**(on behalf of Central Pollution Control Board)**

**E.mail:-advrajkumar@gmail.com**

**Mob:-9810007606**

**Place: Delhi**

**Dated: 13.09.2024**

**BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL  
PRINCIPAL BENCH, NEW DELHI  
ORIGINAL APPLICATION NO. 642 OF 2024**

**IN THE MATTER OF:**

News Item titled "Land sinking: A new environmental challenge in J & K" appearing in greaterkashmir.com dated 29.04.2024

**REPLY ON BEHALF OF CENTRAL POLLUTION CONTROL BOARD  
(CPCB) i.e. RESPONDENT NO. 3**

1. That, the Hon'ble NGT vide order dated 30.05.2024 and notice dated 07.06.2024 has sought the reply of CPCB in the instant matter. Thereby, the reply is made in succeeding paragraphs

2. That, CPCB is a statutory Board constituted under Section 3 of the Water (Prevention and Control of Pollution) Act, 1974 (hereinafter referred to as "Water Act, 1974"). It performs the functions under the Water Act, 1974, the Air (Prevention and Control of Pollution) Act, 1981 (hereinafter referred to as "Air Act, 1981") and the Environment (Protection) Act, 1986.

3. That, the news item reports the massive land sinking at Parnote Village in Ramban District of Jammu and Kashmir that destroyed more than 58 houses and led to shifting of over 500 people to safer places. It is stated in the article that land sinking from last several years has emerged as one of the major environmental challenges in J&K. The news item also makes a reference to studies conducted and recommendations made by a panel for banning civil construction in the land subsidence-hit area in Doda District last year in the matter of OA No. 93/2023. The news item also mentions that Doda and Ramban Districts are among the most eco-fragile areas in J&K due to unique geo-climatic conditions. It has also been brought out



that the Srinagar-Jammu National Highway frequently gets closed due to landslides, especially in Ramban district.

4. That, in this regard it is humbly submitted that there was a matter i.e OA No. 93/2023, wherein suo moto cognizance was taken by Hon'ble NGT over a newspaper report published in daily newspaper 'The Hindu' dated 04.02.2023 titled as "19 families shifted after houses in J & K village develop cracks". In this aforesaid matter, the news report provided that 21 structures developed large cracks due to sinking surface in Doda District of Chenab Valley in State of Jammu & Kashmir, situated on the slopes with the Chenab River nearby.
5. That, in the above referred matter of OA No. 93/2023, a Joint Committee was constituted by Hon'ble NGT headed by Chief Secretary, J&K, wherein CPCB was also a member besides the other members of the Joint Committee were representatives from Wadia Institute of Himalayan Geology Dehradun, Govind Ballabh Pant National Institute of Himalaya and Environment, National Institute of Hydrology (NIH), Roorkee, Prof. J.S Rawat, Kumaon University, Almora, Space Application Centre, Ahmedabad, National Institute of Rock Mechanics, Bangalore and ACS Environment, J&K. The Joint Committee in the matter of OA No. 93/2023, was directed to suggest remedial measures to prevent environmental damage in the light of carrying capacity, hydro-geology studies, geomorphological studies and also covering other allied and incidental issues. Accordingly, the committee conducted a detailed field survey of the affected area of Nai Basti, Thathri, Doda District, Jammu and Kashmir during 08- 09 May, 2023 accompanied by the Sub-divisional Magistrate (SDM) Thathri and the Conservator of Forests, Chenab Circle with their respective teams. Copy of the Joint committee report submitted to Hon'ble NGT is annexed herewith as **Annexure-I**. The following recommendations were made by the Joint Committee in OA No. 93/2023



- i. No further civil construction within the affected area of Nai Basti may be allowed. In view of the coming monsoon season, the affected area needs to be under observation of district administration. In case of any new sign of major cracks in houses outside the affected area, residents to be evacuated immediately. Moreover, as a precautionary measure, people living in houses outside the affected area and adjoining houses/structures not yet affected may also be asked to relocate to a safer place.
- ii. A retention wall of around 400 m with weep holes may be constructed near the base of the land slide area (at the toe of the slope) at the road level to stop any further slope failure.
- iii. All cracks to be filled up with the cement slurry well before the onset of monsoon to control the percolation of rain water/surface water and to monitor any further displacements.
- iv. The natural diversion and drainage channels within the area may be restored or renovated immediately so that the surface run-off could be diverted. Proper drainage and sewer plan for the entire area to be developed and implemented.
- v. Any further construction outside of the affected area only to be allowed after geotechnical assessments such as soil bearing tests, etc. Since the affected area is situated just above the Chenab river channel, to stop the river erosion, Gabion Wall with a suitable dimension may be constructed on the riverside.
- vi. The area lacks high resolution geotagged data of natural and man-made resources. Hence, a “geo-portal” containing the data/information of all the concerned departments/research institutions/agencies in one common platform may be developed (at 1:10,000 scale) by the district GIS cell in collaboration with



Department of RS & GIS, Jammu University or such other agencies for better planning, management and regular monitoring.

- vii. Geomorphic map which could depict the spatial distribution landforms such as colluvial cones, colluvial fans, alluvial terraces, colluvial fans underlain by alluvial terraces, etc. composed of Quaternary deposits i.e., colluvium and alluvium is to be developed for the area under reference at 1:10000 scale for sustainable planning and development of all civil engineering works, their regular monitoring and management.
- viii. Detailed Landslide Hazard Zonation of the entire new Thathri town is to be carried out, preferably by Geological Survey of India, in view of similar type of geological and geomorphologic setup in the Thathri area.
- ix. No subsurface engineering activity may be allowed within an area circumscribing 500 m of the affected location.
- x. The present residents of the affected 24 houses of Nai Basti Thathri may be rehabilitated to a suitable safer location within the framework of applicable laws.

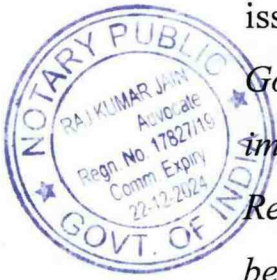


Suggestion by the Expert Committee: In steep mountainous terrain, geo-morphologically a hill spur has three components: crest, mid crest and foot slope. All these three components have distinct hydro-geomorphic processes and landforms. The area under reference lies on foot slope of Thathri hills spur. Figure 6 depicts the hydro-geomorphic cross-section of the foot slope zone of the Thathri hill spur which depicts: i) rain water recharge zone made-up of Quaternary landforms, i.e., colluvial fan underlain by the Chenab river terraces having very high infiltration capacity; and ii) sub-surface flow paths of infiltrated water causing earth creeping due to

steadily increasing pore water pressure during rain resulting in development of multiple cracks, sinking of land, landslides and rock falls causing damages to buildings and roads constructed on this highly ill-suited site (may be due to ignorance of the local people and government also). It is suggested that for the sustenance of the environment, the Thathri type foot slope zones of hill spurs in the entire District Doda should be mapped using geospatial technologies at 1:10,000 scale by which such ill-suited sites may avoided for civil engineering works in future.”

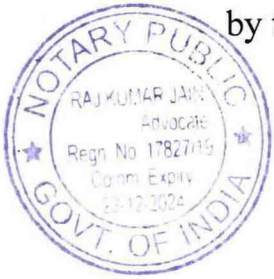
6. That, the report of the Joint Committee in the matter of OA No. 93 of 2023, was accepted by the Hon'ble NGT and the following directions were issued: *“We accept Joint Committee Report and direct Chief Secretary, Government of Jammu & Kashmir to take all steps to give effect to and implement recommendations and suggestions made in Joint Committee's Report dated 24.05.2023, in a timeline manner, which should not go beyond one year from today and submit a compliance Report to Registrar General of this Bench within 15 days after expiry of one year from today.”* The copy of Hon'ble NGT order dated March 15, 2024 in OA No. 93/2023 is annexed herewith as **Annexure—II**.

7. It is submitted that the recommendations and suggestions made by the Joint Committee in the matter of OA No. 93/2023 may also be examined and followed by the Government of J&K, for remediation and further prevention of such incidents as brought out in the instant OA No.642/2024.
8. That, in this matter following action has been taken by CPCB: CPCB vide letter No CPCB/RD/CHD/NGT/2024/80 dated 27/08/2024 has requested J&K PCC to coordinate with the concerned departments and provide the action taken report (ATR), with regard to various actions taken by the concerned departments to CPCB, followed by a reminder letter



through email dated 05/09/2024. Response from J&K PCC is awaited. The copy of letter of CPCB letter No CPCB/RD/CHD/NGT/2024/80 dated 27/08/2024 is annexed herewith as **Annexure-III**. The copy of reminder letter through email dated 05/09/2024 is annexed herewith as **Annexure-IV**.

9. That, the answering respondent herein craves leave of the Hon'ble Tribunal to file additional reply, in future, if required.
10. That, in view of the submissions made in preceding paragraphs, the answering respondent i.e. CPCB shall abide by the orders/directions passed by the Hon'ble Tribunal in the instant matter.



**(Sharandeep Singh)**

Scientist 'E'

Central Pollution Control Board

**BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL  
PRINCIPAL BENCH, NEW DELHI  
ORIGINAL APPLICATION NO. 642 OF 2024**

**IN THE MATTER OF:**

News Item titled "Land sinking: A new environmental challenge in J & K" appearing in greaterkashmir.com dated 29.04.2024

**AFFIDAVIT**

I, Sharandeep Singh, working as Scientist 'E' in Central Pollution Control Board, Parivesh Bhawan, East Arjun Nagar, Delhi, the Respondent No. 1 in the above matter, do hereby solemnly affirm, declare on oath and state as under:-

1. That I, the deponent herein is authorized representative to represent the Respondent CPCB in the present case, and as such, I am well conversant with the facts and circumstances of the present case on the basis of the information derived from the official records, and hence, I am competent and authorized to verify, sign and swear this affidavit on behalf of the Respondent CPCB.
2. That the accompanying reply may be read part and parcel of the present affidavit.
3. That the accompanying reply has been drafted and filed under my instructions and authority the contents thereof are true and correct on the basis of the record maintained during ordinary course of business of CPCB and available records and documents and the contents of the same are read over and explained to me and are not repeated herein for the sake of brevity.



*Sharandeep Singh*  
**DEPONENT**  
शरणदीप सिंह / Sharandeep Singh  
वैज्ञानिक 'ई' / Scientist 'E'  
केंद्रीय प्रदूषण नियंत्रण बोर्ड  
Central Pollution Control Board  
(पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय, भारत सरकार)  
(Mo Environment, Forest & Climate Change, Govt. of India)  
परिवेश भवन, पूर्वी अर्जुन नगर, दिल्ली-110032  
Parivesh Bhawan, East Arjun Nagar, Delhi-110032

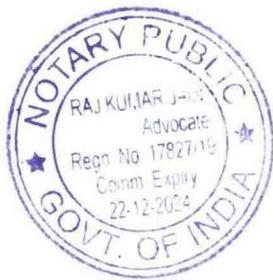
VERIFICATION:

13 SEP 2024

Verified at New Delhi on this day of \_\_\_\_\_ 2024 that the contents of the above reply are correct and true on the basis of the records of the case as mentioned in the day-to-day affairs of the CPCB. Nothing has been concealed therefrom or mis-stated.

*Sharandeep*

शरणदीप सिंह **DISPONENT** Singh  
वैज्ञानिक 'ई' / Scientist 'E'  
केंद्रीय प्रदूषण नियंत्रण बोर्ड  
Central Pollution Control Board  
(पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय, भारत सरकार)  
(Ministry of Environment, Forest & Climate Change, Govt. of India)  
परिवेश भवन, पूर्वी अर्जुन नगर, दिल्ली-110032  
Parivesh Bhawan, East Arjun Nagar, Delhi-110032



ATTESTED  
NOTARY PUBLIC  
GOVT. OF INDIA

13 SEP 2024

शरणदीप सिंह  
वैज्ञानिक 'ई' / Scientist 'E'  
केंद्रीय प्रदूषण नियंत्रण बोर्ड  
Central Pollution Control Board  
(पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय, भारत सरकार)  
(Ministry of Environment, Forest & Climate Change, Govt. of India)  
परिवेश भवन, पूर्वी अर्जुन नगर, दिल्ली-110032  
Parivesh Bhawan, East Arjun Nagar, Delhi-110032

Government of Jammu & Kashmir  
Forest, Ecology & Environment Department  
 Civil Secretariat, Srinagar/Jammu  
 (Legal Section)

Consultant (Judicial),  
 Hon'ble National Green Tribunal,  
 Principal Bench, New Delhi.

No: - FST-Lit/33/2023-02-Forest Department

Dated: - 05.02.2023

Subject: - O.A. No. 93/2023-News item published in Newspaper "The Hindu" dated 04.02.2023 titled "19 families shifted after houses in J&K village develop cracks."

Sir,

With reference to the subject captioned above, I am to inform that the Hon'ble Tribunal was pleased to pass an order dated 17.02.2023 in the afore-cited matter, operative part whereof reads as under: -

*"...we direct constitution of a joint Committee to be headed by Chief Secretary, J&K. Other members will be Wadia Institute of Himalayan Geology Dehradun, Govind Ballabh Pant National Institute of Himalaya and Environment, National Institute of Hydrology (NIH), Roorkee, Prof. J.S Rawat, Kumaon University, Almora, Space Application Centre, Ahmedabad, National Institute of Rock Mechanics, Bangalore, CPCB and ACS Environment, J&K. ACS Environment J&K will act as nodal agency for coordination and compliance. ACS, Environment will provide for travel and logistics for members to the extent necessary. Meetings may be held online or offline as may be necessary except for visit to the site.*

*The Committee may suggest remedial measures to prevent environmental damage in the light of carrying capacity, hydro-*

*af*

*geology studies, geo-morphological studies and also covering other allied and incidental issues. The Committee will be at liberty to take assistance from any other expert/institution. The Committee may meet within two weeks and complete its studies within two months. The Committee may furnish its report by e-mail at [judicial-ngt@gov.in](mailto:judicial-ngt@gov.in) preferably in the form of searchable PDF/ OCR Support PDF and not in the form of Image PDF on or before May 15, 2023.*

*The Committee will be free to interact with the stakeholders including the inhabitants/members of civil societies. The Committee may also consider the concerns in the media report. It will be open to the Chief Secretary, J&K to take preventive and remedial measures found necessary in the light of the media report otherwise... ”*

2. That in compliance with the aforesaid order dated 17.02.2023, Government in the General Administration Department vide G.O. No. 387-JK(GAD) of 2023 dated 24.03.2023, copy whereof is enclosed herewith as **Annexure-I**, constituted a committee with the similar composition and mandate as directed by the Hon'ble Tribunal.

3. That the constituted committee subsequently prepared a draft report on the subject, copy whereof is enclosed herewith as **Annexure-II**, with the following recommendations and suggestion: -

**RECOMMENDATIONS BY THE EXPERT COMMITTEE:**

- (i) No further civil construction within the affected area of Nai Basti may be allowed. In view of the coming monsoon season, the affected area needs to be under observation of district administration. In case of any new sign of major cracks in houses

*af*

outside the affected area, residents to be evacuated immediately. Moreover, as a precautionary measure, people living in houses outside the affected area and adjoining houses/structures not yet affected may also be asked to relocate to a safer place.

- (ii) A retention wall of around 400 m with weep holes may be constructed near the base of the land slide area (at the toe of the slope) at the road level to stop any further slope failure.
- (iii) All cracks to be filled up with the cement slurry well before the onset of monsoon to control the percolation of rain water/surface water and to monitor any further displacements.
- (iv) The natural diversion and drainage channels within the area may be restored or renovated immediately so that the surface run-off could be diverted. Proper drainage and sewer plan for the entire area to be developed and implemented.
- (v) Any further construction outside of the affected area only to be allowed after geotechnical assessments such as soil bearing tests etc. Since the affected area is situated just above Chenab river channel, to stop the river erosion, Gabion Wall with a suitable dimension may be constructed on the riverside.
- (vi) The area lacks high resolution geotagged data of natural and man-made resources. Hence, a "geo-portal" containing the data/information of all the concerned departments/research institutions/agencies in one common platform may be developed (at 1:10,000 scale) by the district GIS cell in collaboration with Department of RS & GIS, Jammu University or such other agencies for better planning, management and regular monitoring.
- (vii) Geomorphic map which could depict the spatial distribution of landforms such as colluvial cones, colluvial fans, alluvial terraces, colluvial fans underlain by alluvial terraces etc. composed of

Quaternary deposits i.e., colluvium and alluvium is to be developed for the area under reference at 1:10000 scale for sustainable planning and development of all civil engineering works, their regular monitoring and management.

(viii) Detailed Landslide Hazard Zonation++- of the entire new Thathri town is to be carried out, preferably by Geological Survey of India, in view of similar type of geological and geomorphologic setup in the Thathri area.

(ix) No subsurface engineering activity may be allowed within an area circumscribing 500 m of the affected location.

(x) The present residents of the affected 24 houses of Nai Basti Thathri may be rehabilitated to a suitable safer location within the framework of applicable laws.

#### **SUGGESTION BY THE EXPERT COMMITTEE:**

It is suggested that for the sustenance of the environment, the Thathri type foot slope zones of hill spurs in the entire District Doda should be mapped using geospatial technologies at 1:10,000 scale by which such ill-suited sites may be avoided for civil engineering works in future.

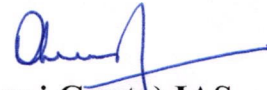
4. That in order to discuss the above referred to draft report, a meeting under the chairmanship of Chief Secretary, J&K was held on 22.05.2023, record note whereof is enclosed herewith as **Annexure-III**, and after deliberating on the issues and recommendations, following decisions were taken: -

- a. No further constructions within the affected area of Nai Basti may be allowed.



- b. The recommendations of the committee may be conveyed to the local population for a stake-holder consultation by the District Administration within 15 days, so that further action on the recommendations of the committee could be taken.
- c. Draft report was agreed in principle to be submitted to the Hon'ble Tribunal.
5. That subsequently, the report as finalized in the meeting held under the chairmanship of Chief Secretary, J&K on 22.05.2023 was forwarded to the undersigned by the Chief Conservator of Forests, Jammu vide his communication No. CCF-J/LO/F.16/23/389-90 dated 23.05.2023, copy whereof is enclosed herewith as **Annexure-IV**.
6. In the above backdrop, it is requested that the afore-stated position may kindly be placed before the Hon'ble Tribunal, for its kind consideration.

Yours faithfully,



**(Dheeraj Gupta) IAS**  
Principal Secretary to Government

**Encls: As above.**

**Copy (with enclosures) to the: -**

Shri G. M. Kawoosa, Additional Standing Counsel for Government of J&K in Hon'ble National Green Tribunal-Principal Bench, New Delhi, for information and necessary action.

**GOVERNMENT OF JAMMU AND KASHMIR  
GENERAL ADMINISTRATION DEPARTMENT,  
Civil Secretariat, J&K.**

**Subject:-** Hon'ble NGT Order dated 17.02.2023, regarding sinking of land in District Doda, constitution of Committee thereof.

**Ref No:-** U.O No. FST-Lit/33/2023-02- received from Forest Department.

**Government Order No.387-JK(GAD) of 2023  
Dated: 24.03-2023**

Sanction is hereby accorded to constitution of a Committee, comprising the following, to suggest remedial measures for preventing environmental damage in light of carrying capacity, hydro-geology/geomorphological studies along-with covering other allied and incidental issues of land subsidence at District Doda, J&K:-

1	Chief Secretary, J&K	Chairman
2	Principal Secretary to Government, Forest, Ecology & Environment Department, Govt. of J&K (Nodal agency for coordination & compliance)	Member- Convenor
3	Prof. J. S. Rawat, Kumaon University, Almora	Member
4	Representative of Wadia Institute of Himalayan Geology, Dehradun	Member
5	Representative of Govind Ballabh Pant National Institute of Himalaya and Environment	Member
6	Representative of National Institute of Hydrology, Roorkee	Member
7	Representative of Space Application Centre, Ahmadabad	Member
8	Representative of National Institute of Rock Mechanics, Bangalore	Member
9	Representative of Central Pollution Control Board	Member

**Terms of Reference of the Committee shall be as under:**

- i) The Committee shall suggest remedial measures to prevent environmental damage in the light of carrying capacity, hydro-geology studies, geo-morphological studies and also covering other allied and incidental issues.
- ii) The Committee shall be at liberty to take assistance from any other expert/institution. The Committee shall be free to interact with the stakeholders including the inhabitants/members of civil societies and may also consider the concerns in the media report.
- iii) The Committee shall complete its studies within two months and furnish its report to Hon'ble NGT by e-mail on or before May 15, 2023.

The Committee shall meet within two weeks and complete its studies within two months and shall be serviced by the Department of Forest, Ecology & Environment.

**By Order of Government of Jammu and Kashmir.**


**Sd/-**  
**(Sanjeev Verma) IAS**  
Commissioner/Secretary to the Government

No. GAD-ADM0IV/31/2023-09-GAD

Dated: 24.03.2022

Copy to the:-

1. Principal Secretary to Government, Forest, Ecology & Environment Department.
2. Joint Secretary (J&K), Ministry of Home Affairs, Government of India.
3. Prof. J. S. Rawat, Kumaon University, Almora.
4. Representative of Wadia Institute of Himalayan Geology, Dehradun.
5. Representative of Govind Ballabh Pant National Institute of Himalaya and Environment.
6. Representative of National Institute of Hydrology, Roorkee.
7. Representative of Space Application Centre, Ahmadabad
8. Representative of National Institute of Rock Mechanics, Bangalore.
9. Representative of Central Pollution Control Board.
10. Director, Archives, Archaeology and Museums, J&K.
11. Principal Private Secretary to Hon'ble Lieutenant Governor, J&K.
12. Private Secretary to the Chief Secretary, J&K.
13. Private Secretary to Advisor (B) to the Lieutenant Governor.
14. Private Secretary to Commissioner/Secretary to the Government, GAD.
15. Government Order/Stock file/Website, GAD. Hindi and Urdu version shall follow.

  
**(Mohit Raina) JKAS**  
Under Secretary to the Government







Government of Jammu and Kashmir  
Forest, Ecology & Environment Department  
Civil Secretariat, Jammu/Srinagar

**Record note of the meeting of the Committee constituted by the General Administration Department, J&K vide Government order No.387-JK(GAD) of 2023 dated 24.03.2023, in compliance to the directions issued by Hon'ble NGT in the matter of Original Application No. 93/2023, held on 22.05.2023 under the Chairmanship of Chief Secretary, J&K.**

A meeting chaired by the Chief Secretary, J&K was held on 22.5.2023 at 1.00 P.M in the Committee Room, 3<sup>rd</sup> Floor, Civil Secretariat, Srinagar and through VC in Meeting Hall, 2<sup>nd</sup> Floor, Civil Secretariat Jammu to discuss the draft report on remedial measures for preventing environmental damage in light of carrying capacity, hydro-geology/geo-morphological studies, along with covering other allied and incidental issues of land subsidence at Nayi Basti in Thathri area of District Doda, J&K.

The Draft Report was prepared by expert members of the Committee headed by Chief Secretary, J&K constituted by the J&K Government in pursuance to directions issued in Order dated 17.02.2023 by Hon'ble NGT. Following Officers/expert members participated in the meeting:-

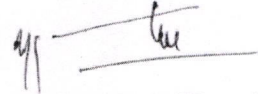
1. Principal Secretary to the Government, Forest, Ecology & Environment Department (Member-Convenor).
2. APCCF/CCF, Jammu.
3. Special Secretary (Tech.), Forest, Ecology & Environment Department.
4. Prof. J.S. Rawat, Kumaon University Almora.
5. Dr. Khayingshing Luirei, Wadia Institute of Himalayan Geology, Dehradun.
6. Dr. Sandipan Mukherjee, G.B Pant National Institute of Himalayan Environment.
7. Dr. PG Jose, National Institute of Hydrology, Roorkee.
8. Dr. Ritesh Agarwal, Space Applications Centre, Ahmedabad.
9. Dr. Devendra Singh Rawat, National Institute of Rock Mechanics, Bangalore.
10. Dr. Narendra Sharma, CPCB, RO Chandigarh.

Prof. J.S. Rawat briefed the participants about the salient points of the Draft Report, as well as about the recommendations, on behalf of the expert members.

After deliberating on the issues & recommendations, it was decided as follows:-

1. No further construction within the affected area of Nayi Basti may be allowed as recommended by the Committee till adequate measures are in place.
2. The recommendations of the Committee may be conveyed to the local population for a stake-holder consultation by the District Administration, within 15 days, so that further action on the recommendations of the committee could be taken.

With this, the draft report was agreed in principle to be submitted to the Hon'ble NGT.



**(Dr. Harpreet Kaur)**

Special Secretary (Technical)



Dated.24-05-2023

No.FST-Lit/33/2023(7197330)

Copy to the:

1. All concerned Members.
2. Deputy Commissioner, Doda.
3. Conservator of Forests, Chenab Circle, Jammu.
4. DFO, Doda/Bhaderwah.
5. Sub-Divisional Magistrate, Thathri.
6. PS to Chief Secretary, J&K.
7. PS to Principal Secretary to the Government, Forest, Ecology & Environment Department.
8. Stock file.



GOVERNMENT OF JAMMU AND KASHMIR  
**OFFICE OF THE CHIEF CONSERVATOR OF FORESTS, JAMMU**  
(Forest Complex Exchange Road, Dogra Hall) Ph. 0191 – 2547748, 2545400 email [ccfjammu1@gmail.com](mailto:ccfjammu1@gmail.com)

The Principal Secretary to the Government,  
Forest, Ecology & Env. Department,  
Civil Secretariat, J&K.

No. CCF-J/LO/F.16/23/389-90

Dated 23/05/2023

Sub: Hon'ble NGT Order dated 17.02.2023 in O.A No.93/2023 in re: News item published in Newspaper 'The Hindu' dated 04.02.2023 titled "19 families shifted after houses in J&K develop cracks".

Sir,

Kindly find enclosed the report received from the expert members of the Committee constituted by Hon'ble NGT in O.A No.93/2023 as finalized in the meeting held by the Chief Secretary on 22.05.2023 for necessary action.

Yours faithfully,

Encls:A/A.

(B.M Sharma)

Chief Conservator of Forests,  
Jammu.

Copy to Special Secretary (Technical) Forests, Ecology & Env. Department Civil Secretariat, J&K. for information and necessary action.

## REPORT

of the Committee Constituted under the Chairmanship of the  
Chief Secretary, J&K in compliance to directions issued by

### Hon'ble National Green Tribunal in Original Application Number: 93/2023

In re: News item published in Newspaper "The Hindu" dated  
04.02.2023 titled "19 families shifted after houses in J&K village  
develop cracks"

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#### Member-Convenor:

Principal Secretary to Govt., Forest, Ecology & Environment  
Department, J&K Govt.

#### Expert Members:

Prof. J. S. Rawat (Retd.), Kumaon University

Dr. PG Jose (National Institute of Hydrology, Roorkee)

Dr. Narender Sharma (Central Pollution Control Board, RO Chandigarh)

Sh. Ritesh Agrawal (Space Application Centre, ISRO, Ahmedabad)

Dr. K Luirei (Wadia Institute of Himalayan Geology, Dehradun)

Dr. Devendra Singh Rawat (National Institute of Rock Mechanics,  
Bengaluru)

Dr. Sandipan Mukherjee (GB Pant National Institute of Himalayan  
Environment, Almora)

## 1. Background:

In compliance to the directions issued by Hon'ble NGT vide Order dated 17.02.2023 in the matter of Original Application Number 93/2023 In re: News item published in Newspaper "The Hindu" dated 04.02.2023 titled "19 families shifted after houses in J&K village develop cracks" (**Annexure-I**), the J&K Government constituted a Committee vide G.O. No. 387-JK(GAD) of 2023 dated 24.03.2023 (**Annexure-II**) headed by the Chief Secretary, J&K and Principal Secretary, Forest, Ecology & Environment Department as Member-Convenor, to suggest remedial measures for preventing environmental damage in light of carrying capacity, hydro-geology/geo-morphological studies along with covering other allied and incidental issues of land subsidence at District Doda in J&K. The following expert members were nominated by the Institutions mentioned in the Hon'ble NGT Order after nominations were invited by the J&K Govt.:

1. Prof. J.S. Rawat (Retd.), (Kumaon University)
2. Dr. Khayingshing Luirei (Wadia Institute of Himalayan Geology, Dehradun);
3. Dr. P. G. Jose (National Institute of Hydrology, Roorkee);
4. Sh. Ritesh Agarwal (Space Application Centre, ISRO, Ahmedabad);
5. Dr. Sandipan Mukherjee (GB Pant National Institute of Himalayan Environment, Almora);
6. Dr. Devendra Singh Rawat (National Institute of Rock Mechanics, Bengaluru);
7. Dr. Narendra Sharma (Central Pollution Control Board, Regional Office, Chandigarh);

The matter was discussed preliminarily by the expert members and it was decided to conduct the study visit to get a first-hand knowledge of the issue. The expert members reached Jammu on 7<sup>th</sup> May, 2023, and a meeting was organised at 07:00PM, at the Circuit House Jammu. The meeting was organized in hybrid

mode, wherein Prof. JS Rawat (Kumaon University) and the Conservator of Forests, Chenab Circle participated online. The logistics for the visit were provided by Chief Conservator of Forests, Jammu.

The agenda for the meeting was to brief the committee regarding the scope of the task and the procedure to be followed in preparing and submitting its report within the timelines as well as to prepare a plan for field survey at the affected area of Thathri in Doda District of UT of Jammu and Kashmir. The record note of the meeting is attached as **Annexure III**.

As decided in the meeting, the Study Reports "*Note on the preliminary geological assessment of slope instability at Nai Basti area, Thathri, District Doda, Jammu-Kashmir*", prepared by the Geological Survey of India during February, 2023, was provided to the committee members along with the "*Preliminary report on landslide investigation at Nai Basti, Thathri, Doda District, Jammu and Kashmir*" prepared by the Department of Geology and Mining, Government of Jammu and Kashmir. The expert members took note of these reports and conducted a detailed field survey at the affected area of Nai Basti, Thathri, Doda District, J&K during 08-09 May, 2023.

Observations of the committee along with the recommendations are elaborated below.

### **1.1 Doda District and the Affected Area of Thathri**

Doda district located in the eastern part of the Jammu region in the Union territory of Jammu & Kashmir, is comprised of 16 Tehsils. The district is bounded by Kishtwar to the northeast, Kathua to the south, Ramban to the northwest, Udhampur to the southwest, and Anantnag to the north. The total geographical area of the district is 2306 sq. km, and the administrative center of the district is situated in Doda, which is approximately 160 km away from Jammu. Due to its distinctive geoclimatic conditions, Doda has historically been

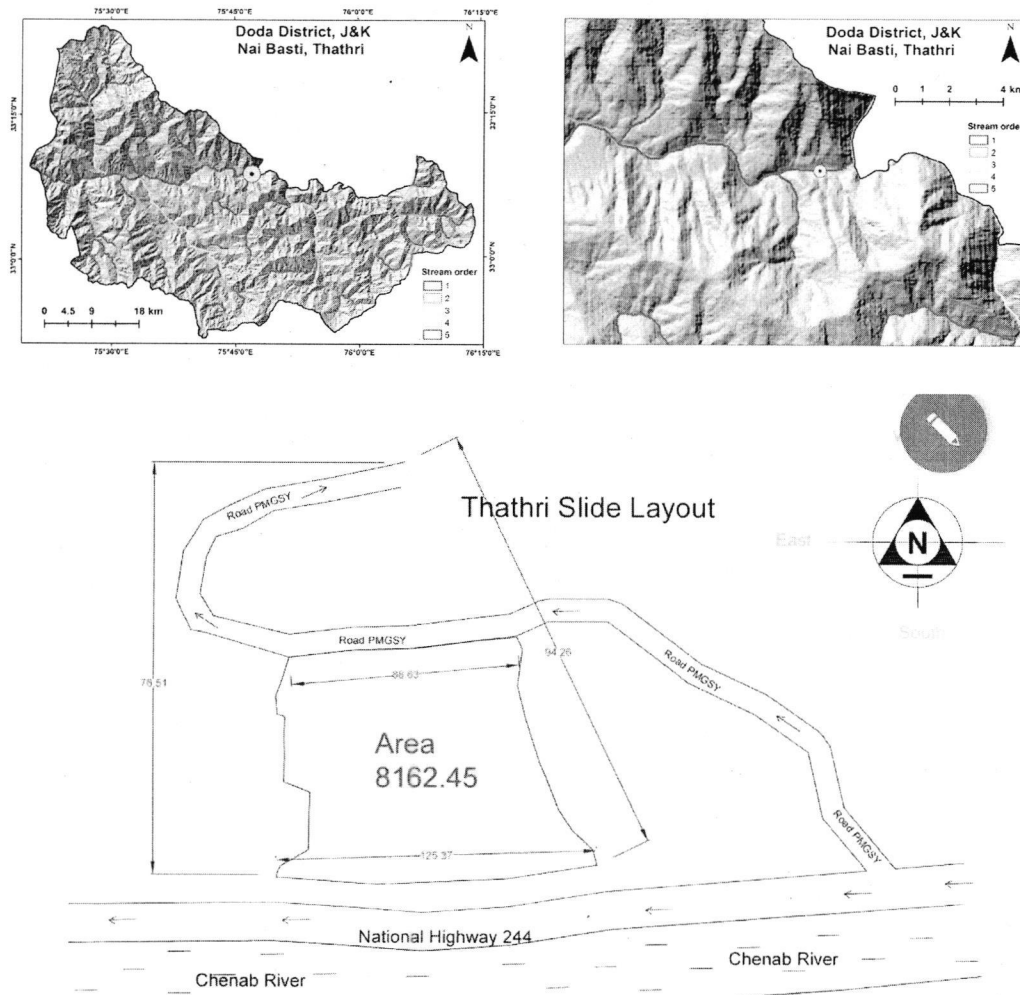
susceptible to natural disasters such as floods, droughts, landslides, and earthquakes, as indicated by the disaster matrix presented in **Table 1**. Throughout history, Doda District has experienced a number of disasters, one of the most recent being the 2017 cloudburst in Tehsil Thathri.

**Table 1:** Recorded incidents of disasters within District Doda.

Type of Disaster	Month / Year	Affected Area	Details of damages caused		
			Deaths	Injury	Structures Damaged
Earthquake	May, 2013	Entire district	-	-	70074
Cloudburst	Apr, 2014	Thathri & Kahara	06	01	09
Flood/Rain	Sep, 2014	Entire district	01	05	1304
Flood/Rain	Feb, March, April, 2015	Entire district	07	09	1706
Cloudburst	April, 2015	Bhagwah	06	-	01
Cloudburst	Jul, 2017	Thathri	06	02	09

(Source: District Disaster Management Plant (DDMP), Doda, Rather A. H., 2018)

According to *Ansari et al (2022, <https://doi.org/10.1007/s40098-022-00694-0>)*, Doda, Udhampur, Ramban and Reasi within Jammu Region are more vulnerable to earthquakes because of the centrally positioned Main Central Thrust and Udhampur Fault in the Region. Other high-risk locations include the northern outskirts of Doda and Kishtwar and the north-western part of Jammu, where mild earthquakes of magnitude  $M_w \geq 5.0$  have been detected regularly in Kishtwar Window and Main Frontal Thrust. The affected area of Thathri falls in Survey of India Toposheet number 43O/16, and the geographical coordinates are  $33^\circ 08' 45.21''$  N,  $75^\circ 47' 3.12''$  E with elevation of approx. 997 m. The Nai Basti, Thathri area, is situated on the left bank of the Chenab River just above the NH244 and below a village road (**Figure 1**), and has a general slope of 65-70°.

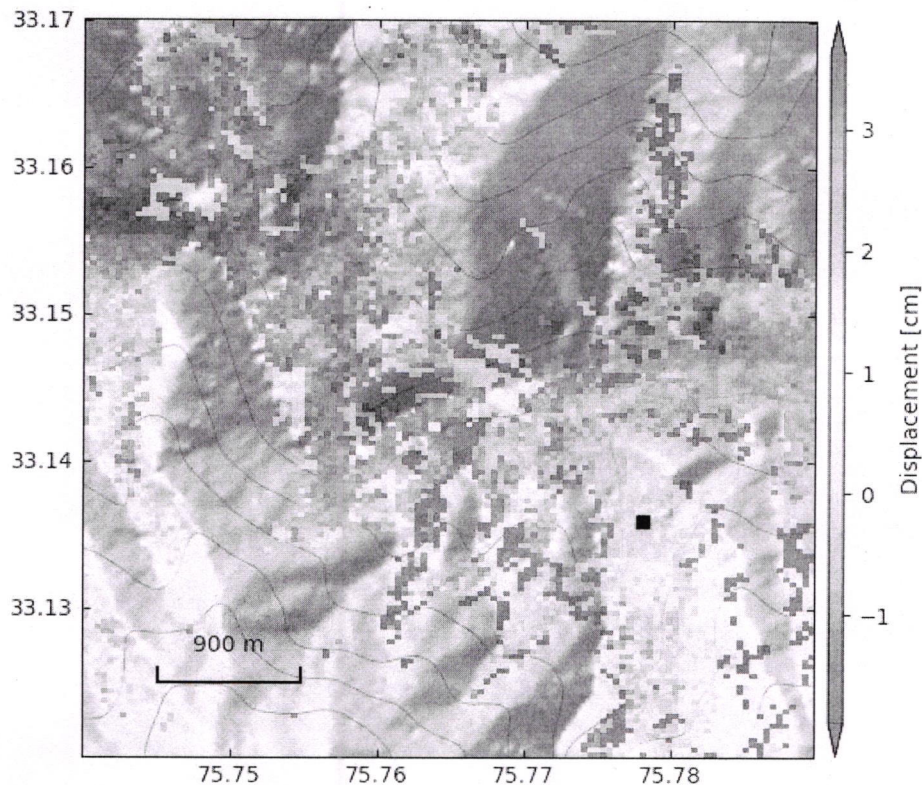


**Figure 1:** Location of Thathri within District Doda is shown in left panel. The right panel shows zoomed location of Thathri with a first order stream almost 01 km west of the affected area. A generic layout of the Nai Basti affected area of Thathri is presented in the lower panel (not to scale).

## 1.2 InSAR analysis of Thatri Area, Doda District, J & K

An InSAR (Interferometric Synthetic Aperture Radar) based survey was conducted to understand the evolution of land deformation at Thathri and surrounding regions. The objectives of the analysis were to examine evolution of land displacement since January 2023. Time-series data sets from Sentinel-1 (January 2023-April 2023) satellites were processed using Small Baseline Subset Interferometry (SBAS) technique to map the surface deformation.

Interferograms were corrected for topographic and phase unwrapping errors for obtaining reliable deformation time-series. Finally, areas having coherence  $< 0.4$  were masked to further reduce noise due to land surface changes. Map showing surface deformation along the line of sight of the satellite during 2023-01-06 and 2023-04-26 is shown in **Figure 2**. InSAR analysis did not show any surface deformation associated with the ground cracks / rock slides in the study region.



**Figure 2:** Maps showing cumulative LOS deformation at Thatri and surrounding regions from 2023-01-06 to 2023-04-26 Drapped over DEM.

## 2. General observations of the affected area by the Expert Committee

The committee conducted a detailed field survey of the affected area of Nai Basti, Thathri, Doda District, Jammu and Kashmir during 08-09 May, 2023 accompanied by the Sub-divisional Magistrate (SDM) Thathri and the Conservator of Forests, Chenab Circle with their respective teams. The specific observations of the committee are as follows:

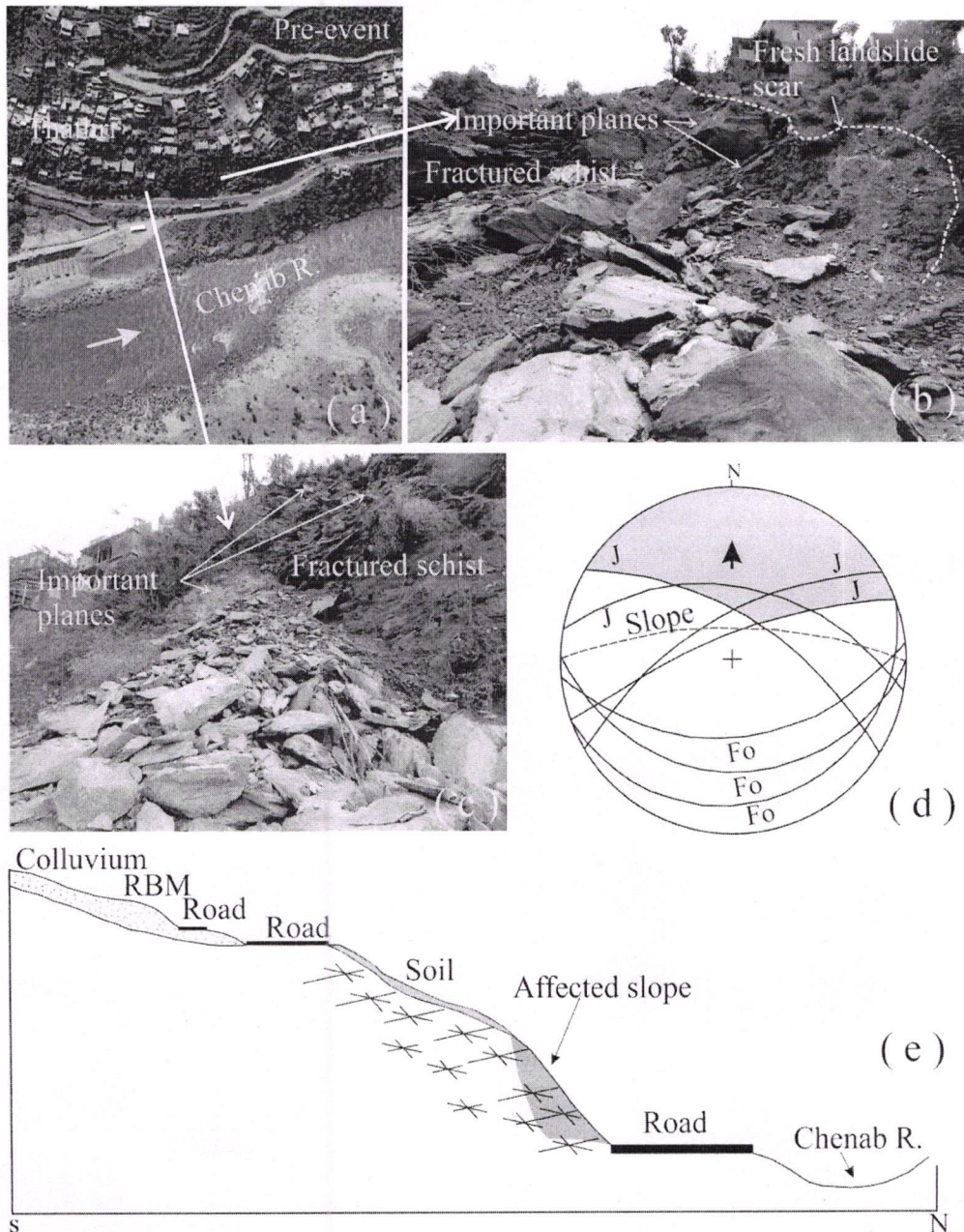
- The affected settlement at Nai Basti, Thathri (24 affected houses/structures) was established majorly on Shamlat land (i. e. village pasture land) prior to 2014 when Thathri became a municipality, as informed by SDM Thathri. As such, there were no extant construction by-laws applicable and no retaining wall with weep holes, or planned drainage or sewage disposal structures were observed in the affected area, except unplanned PVC pipes for the purpose of sewerage disposal to the road side drainage downslope. As per local officials, soil bearing capacity assessment, other feasibility studies, etc. also would not have been carried out prior to the construction of these structures.
- The physical inspection of cracks by the committee at various locations within the affected area revealed horizontal, lateral and vertical displacements with maximum value of cracks more than 50 cm (**Figure 3**). The total affected area is noted to be approximately 8000 m<sup>2</sup>.



**Figure 3:** Cracks observed in the various structures of the affected areas. The lower right panel shows the committee members with the Conservator of Forests, Chenab Circle, Jammu and Kashmir.

- The SDM Thathri and local residents informed the committee that the incident initiated on 1<sup>st</sup> February, 2023 and continued till 5<sup>th</sup> February, 2023. No new cracks are reported from 6<sup>th</sup> February, 2023 onward. The total number of structures affected is 24 including 3 completely damaged structures, 11 having major cracks and 10 having minor cracks.
- The slope of the affected area is towards north and approximately 65-70°. The affected area is predominantly on schist bedrock overlain by thin

layer of soil. The layer of the river born material exposed towards the crown of the landslide is not much affected by the landslide as only small cracks and subsidence are observed on the road (**Figure 4**). The Chenab River valley between Lalhote and New Thatri is made up mainly of slate, phyllite, schist, marble and orthogneiss. The landslide affected slope at New Thatri is made up mainly of weathered schist intervened by unweathered schist in between. The foliation dips moderately towards the south. The bedrock is traversed by two important joint sets forming wedges towards the daylight slope (**Figure 4**). The bedrock data from the immediate adjoining slope is also made up of highly weathered schist that dips moderately to gently towards the south with wide open fractures. The slope dips steeply towards the north. The Quaternary deposits and morphology of the Chenab River valley suggest that the valley is susceptible to landslides. Observation of landslide and lacustrine deposits in the slopes a height of about 200 m from the present river bed suggest that the Chenab River was blocked by landslides from time to time. The south facing slope that is the right bank slope of the Chenab River is more susceptible to landslides as number of old and active landslides are observed. Steep slopes are observed on both sides of the river valley the south facing slope being steeper than the north facing. Geological traverses were carried out along the road sections of the Nai Basti Thathri area. The main rock types are schists and gneisses (**Figure 5 c&b**) of Salkhala Formation belonging to Proterozoic age. The exposed rocks are slightly to moderately weathered in nature as per ISRM 1978. The details of the discontinuities are given in **Table 2 and 3**.



**Figure 4:** Subplot (a) shows Google Earth image showing pre-landslide slope of the New Thatri. (b & c) Field photographs showing landslide affected slope with important joint planes, weathered, and fractured nature of the bedrock forming the slope. (d) Kinematics analysis of the joints indicating the intersecting joints forming wedges towards daylight slope (J – Joint; Fo – Foliation); (e) Schematic diagram representing the affected slope, bedrock, joints and Quaternary deposits (RMB – River Born Material).



**Figure 5:** Subplot (a) Coarsely laminated fluvial deposit towards the crown of the landslide; (b, c, d) highly weathered schist and un-weathered gneiss with wide open fractures towards the crown of the landslide; (e & f) cracks developed in the concrete structures; (g) landslide scar developed within the slide mass; (h) tilted retaining and longitudinal landslide scar.

**Table 2:** Discontinuities observed in the exposed schistose rock at the NH-244

Joint Set	Dip direction / Dip Amount	Spacing (cm)	Persistence (m)	Roughness*	Aperture (mm)	Infilling	WG*	Ground Water	Remark
Foliation	N140°/50°	40-100	5-15	S/U	Tight-2	None	WI-III	Dry	Foliation joint
J1	N050°/40°	10-30	5-10	S/U	Tight-2	None	WI-III	Dry	Critical joint
J2	230°/60-65°	10-20	>10	S/U	1-3	None	WI-III	Dry	Prominent joint
J3	N340°/40°	-	2-5	S/U	1-3	None	WI-III	Dry	Random joint

S/U\* Smooth undulating, WG\* Weathering grades

**Table 3:** Discontinuities observed in the exposed gneisses rock at the link road

Joint Set	Dip direction / Dip Amount	Spacing (cm)	Persistence (m)	Roughness*	Aperture (mm)	Infilling	WG	Ground Water	Remark
Foliation	N160°/50°	8-20	5-15	R/U	Tight	None	WI-III	Dry	Foliation joint
J1	N150°/90°	10-30	5-15	R/U	Tight	None	W-I	Dry	Prominent joint

R/U\* Rough undulating, WG\* Weathering grades

- The committee further noted that the affected area did not have any ground water springs/streams, and no ground water bore-well.
- The committee further examined the report produced by GSI, GoI, wherein the total rainfall was reported to be 201.2 mm during 20<sup>th</sup> January to 31<sup>st</sup> January, 2023. This heavy rainfall spell might have resulted saturation of the soil/rocks which might have triggered slides.
- Minor cracks were observed by the committee on the road above the affected area, and in the adjoining structures.

### 3. Recommendations by the Expert Committee

- No further civil construction within the affected area of Nai Basti may be allowed. In view of the coming monsoon season, the affected area needs to be under observation of district administration. In case of any new sign of major cracks in houses outside the affected area, residents to be evacuated immediately. Moreover, as a precautionary measure, people living in houses outside the affected area and adjoining houses/structures not yet affected may also be asked to relocate to a safer place.
- A retention wall of around 400 m with weep holes may be constructed near the base of the land slide area (at the toe of the slope) at the road level to stop any further slope failure.
- All cracks to be filled up with the cement slurry well before the onset of monsoon to control the percolation of rain water/surface water and to monitor any further displacements.
- The natural diversion and drainage channels within the area may be restored or renovated immediately so that the surface run-off could be diverted. Proper drainage and sewer plan for the entire area to be developed and implemented.
- Any further construction outside of the affected area only to be allowed after geotechnical assessments such as soil bearing tests, etc. Since the affected area is situated just above the Chenab river channel, to stop the river erosion, Gabion Wall with a suitable dimension may be constructed on the riverside.
- The area lacks high resolution geotagged data of natural and man-made resources. Hence, a “geo-portal” containing the data/information of all the concerned departments/research institutions/agencies in one common platform may be developed (at 1:10,000 scale) by the district GIS cell in

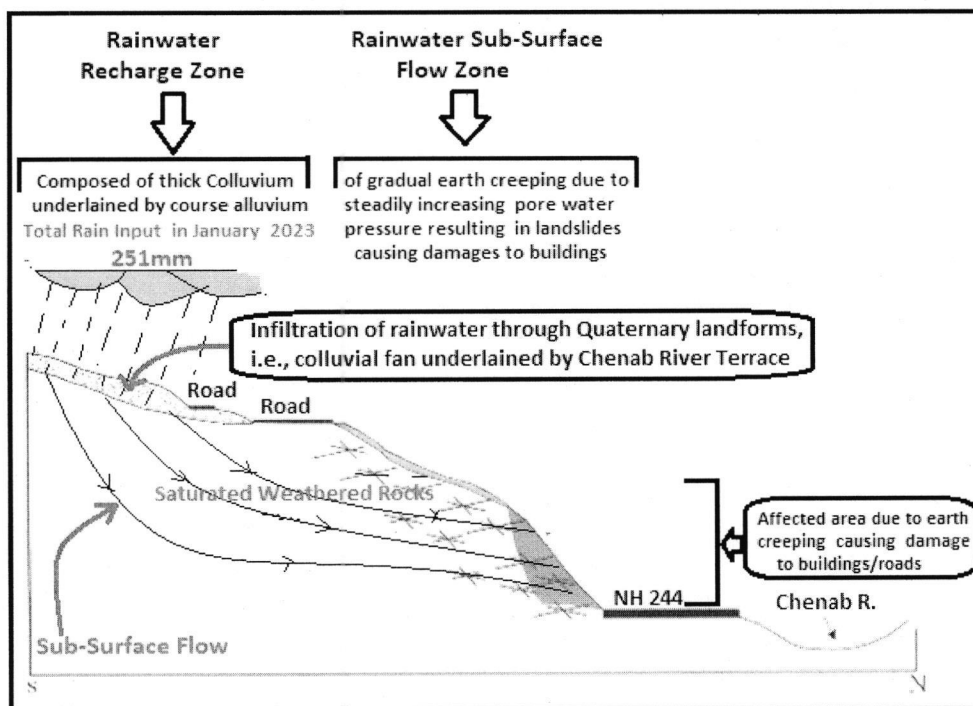
collaboration with Department of RS & GIS, Jammu University or such other agencies for better planning, management and regular monitoring.

- Geomorphic map which could depict the spatial distribution landforms such as colluvial cones, colluvial fans, alluvial terraces, colluvial fans underlain by alluvial terraces, etc. composed of Quaternary deposits i.e., colluvium and alluvium is to be developed for the area under reference at 1:10000 scale for sustainable planning and development of all civil engineering works, their regular monitoring and management.
- Detailed Landslide Hazard Zonation of the entire new Thathri town is to be carried out, preferably by Geological Survey of India, in view of similar type of geological and geomorphologic setup in the Thathri area.
- No subsurface engineering activity may be allowed within an area circumscribing 500 m of the affected location.
- The present residents of the affected 24 houses of Nai Basti Thathri may be rehabilitated to a suitable safer location within the framework of applicable laws.

#### **4. Suggestion by the Expert Committee**

In steep mountainous terrain, geomorphologically a hill spur has three components: crest, mid crest and foot slope. All these three components have distinct hydro-geomorphic processes and landforms. The area under reference lies on foot slope of Thathri hills spur. Figure 6 depicts the hydro-geomorphic cross-section of the foot slope zone of the Thathri hill spur which depicts: i) rain water recharge zone made-up of Quaternary landforms, i.e., colluvial fan underlain by the Chenab river terraces having very high infiltration capacity; and ii) sub-surface flow paths of infiltrated water causing earth creeping due to steadily increasing pore water pressure during rain resulting in development of multiple cracks, sinking of land, landslides and rock falls causing damages to

buildings and roads constructed on this highly ill-suited site (may be due to ignorance of the local people and government also). It is suggested that for the sustenance of the environment, the Thathri type foot slope zones (**Figure 6**) of hill spurs in the entire District Doda should be mapped using geospatial technologies at 1:10,000 scale by which such ill-suited sites may avoided for civil engineering works in future.



**Figure 6:** Hydro-geomorphic cross-section of foot slope zone of the Thathri hill spur depicting geomorphic landforms and hydrologic processes.

Sd/-  
(Prof. J.S. Rawat)  
Kumaon University Almora  
(Member)

Sd/-  
(Dr. Khayingshing Luirei)  
Wadia Institute of Himalayan Geology  
Dehradun  
(Member)

Sd/-  
(Dr. Sandipan Mukherjee)  
G.B Pant National Institute  
of Himalayan Environment, Almora  
(Member)

Sd/-  
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National Institute of Hydrology, Roorkee  
(Member)

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Space Applications Centre, Ahmedabad  
(Member)

Sd/-  
(Dr. Devendra Singh Rawat)  
National Institute of Rock  
Mechanics Bangalore  
(Member)

Sd/-  
(Dr. Narendra Sharma),  
CPCB, RO Chandigarh  
(Member)

(Dheeraj Gupta), IAS  
Principal Secretary to the Government,  
Forest, Ecology & Env. Department  
(Member-Convenor)

**BEFORE THE NATIONAL GREEN TRIBUNAL  
PRINCIPAL BENCH  
NEW DELHI**

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**ORIGINAL APPLICATION NO. 93/2023**

**IN THE MATTER OF:**

**In re: News item published in Newspaper 'The Hindu' dated  
04.02.2023 titled "19 families shifted after houses in J & K  
village develop cracks"**

**COUNSELS FOR RESPONDENT(S):**

Ms. Palak Mittal, Advocate for UT of Jammu & Kahsmir with  
Mr. Vivek Modi, Special Secretary (Technical) Forest, Ecology and  
Environment Department (Through VC)  
Dr. Harpreet Kaur, Secretary (Technical) (Through VC)

**CORAM:**

**HON'BLE MR. JUSTICE PRAKASH SHRIVASTAVA, CHAIRPERSON  
HON'BLE MR. JUSTICE SUDHIR AGARWAL, JUDICIAL MEMBER  
HON'BLE DR. A. SENTHIL VEL, EXPERT MEMBER**

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**RESERVED ON: FEBRUARY 13, 2024  
PRONOUNCED ON: MARCH 15, 2024**

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**JUDGMENT**

**BY HON'BLE MR. JUSTICE SUDHIR AGARWAL, JUDICIAL MEMBER**

1. This Original Application (hereinafter referred to as '**OA**') was registered under Sections 14 and 15 of National Green Tribunal Act, 2010 (hereinafter referred to as '**NGT Act 2010**'), taking *suo-moto* cognizance of a newspaper report published in daily newspaper 'The Hindu' dated 04.02.2023 under the title "19 families shifted after houses in J & K village develop cracks". Report stated that 21 structures developed large cracks due to sinking surface in Doda District of Chenab Valley in State of

Kashmir, situated on the slopes with the Chenab River nearby. There were around 50 residential structures. Many houses developed cracks and got damaged. First such case was reported in December 2023. The local people complained that one side of slope is slipping. This resulted in evacuation from twenty one houses, one masjid and one madras. The area was put on Red alert as informed by Sub-Divisional Magistrate, Thathri, District Doda. Several families were shifted to Government Higher Secondary School for Boys' in Doda. Locals also informed that it is for the first time that the area has witnessed damage to houses due to slipping earth. Most of the affected houses have become unlivable due to wise cracks, weakening the structure. Six structures had developed major cracks. The newspaper also referred to a statement of Union Minister and Member of Parliament Mr. Jitendra Singh that a Geological Survey of India team was already on its way to the affected spot to study the underlying causative factors and short and long term remedial measures, as required, shall be taken.

2. Noticing that the above report discloses a very serious ecological disturbance calling for stringent, preventive and remedial measures inter-alia to regulate location and nature of constructions in the interest of safety of inhabitants, Tribunal referred to its earlier order dated 31.01.2023 passed in **OA 51/2023, In re : News item published in The Tribune dated 16.01.2023 titled "Joshimath disaster a warning for Mussoorie"**, wherein a Joint Committee headed by Chief Secretary and other expert members was constituted to conduct study of capacity of eco-sensitive areas in Himalayan regions in holistic manner, particularly, in respect of Mussoorie where similar cracks were developed and noticed. Joint Committee was directed to conduct study as to how much construction can be allowed and with what safeguards and what preventive

measures be taken for existing buildings and all other relevant and associated aspects including vehicular traffic, sanitation management, maintaining ecological integrity in terms of soil stability and flora-fauna. Acting on the same line, Tribunal constituted a Joint Committee to be presided by Chief Secretary, J&K and other members comprising Wadia Institute of Himalayan Geology Dehradun, Govind Ballabh Pant National Institute of Himalaya and Environment, National Institute of Hydrology (NIH), Roorkee, Prof. J.S Rawat, Kumaon University, Almora, Space Application Centre, Ahmedabad, National Institute of Rock Mechanics, Bangalore, Central Pollution Control Board (hereinafter referred to as ‘**CPCB**’) and ACS Environment, J&K. Tribunal observed that Committee may suggest remedial measures to prevent environmental damage in the light of carrying capacity, hydro-geology studies, geo-morphological studies and also covering other allied and incidental issues. Committee was also given liberty to take assistance from any other expert/institution.

**Compliance Report dated 24.05.2023:**

3. Pursuant to above order dated 17.02.2023, a Compliance Report dated 24.05.2023 was filed by Principal Secretary, Government of J&K, Department of Forest, Ecology and Environment. It is said that pursuant to Tribunal’s order dated 17.02.2023, Government of J&K constituted a Committee comprising the following:

1	<i>Chief Secretary, J&amp;K</i>	<i>Chairman</i>
2	<i>Principal Secretary to Government, Forest, Ecology &amp; Environment Department, Govt. of J&amp;K (Nodal agency for coordination &amp; compliance)</i>	<i>Member-Convenor</i>
3	<i>Prof. J. S. Rawat, Kumaon University, Almora</i>	<i>Member</i>
4	<i>Representative of Wadia Institute of Himalayan Member, Dehradun</i>	<i>Member</i>

5	Representative of Govind Ballabh Pant National Member Institute of Himalaya and Environment	Member
6	Representative of National Institute of Hydrology, Roorkee	Member
7	Representative of Space Application Centre, Ahmadabad	Member
8	Representative of National Institute of Rock Mechanics, Bangalore	Member
9	Representative of Central Pollution Control Board	Member

4. The observations, recommendations and suggestions, contained in the Report are as under:

*“Observations of the committee along with the recommendations are elaborated below:*

#### **1.1 Doda District and the Affected Area of Thathri**

*Doda district located in the eastern part of the Jammu region in the Union territory of Jammu & Kashmir, is comprised of 16 Tehsils. The district is bounded by Kishtwar to the northeast, Kathua to the south, Ramban to the northwest, Udhampur to the southwest, and Anantnag to the north. The total geographical area of the district is 2306 sq. km, and the administrative center of the district is situated in Doda, which is approximately 160 km away from Jammu. Due to its distinctive geo climatic conditions, **Doda has historically been susceptible to natural disasters such as floods, droughts, landslides, and earthquakes, as indicated by the disaster matrix presented in Table 1. Throughout history, Doda District has experienced a number of disasters, one of the most recent being the 2017 cloudburst in Tehsil Thathri.***

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Figure omitted.

### **1.2 InSAR analysis of Thatri Area, Doda District, J & K**

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Figure omitted.

## **2. General observations of the affected area by the Expert**

### **Committee**

The committee conducted a detailed field survey of the affected area of Nai Basti, Thathri, Doda District, Jammu and Kashmir during 08-09 May, 2023 accompanied by the Sub-divisional Magistrate (SDM) Thathri and the Conservator of Forests, Chenab Circle with their respective teams. The specific observations of the committee are as follows:

- The **affected settlement at Nai Basti, Thathri** (24 affected houses/ structures) was established majorly on Shamlat land (i.e. village pasture land), **prior to 2014 when Thathri became a municipality**, as informed by SDM Thathri. As such, there were no extant construction by-laws applicable and no retaining wall with weep holes, or planned drainage or sewage disposal structures were observed in the affected area, except unplanned PVC pipes for the purpose of sewerage disposal to the road side drainage downslope. As per local officials, **soil bearing capacity assessment, other feasibility studies, etc. also would not have been carried out prior to the construction of these structures.**
- The **physical inspection of cracks** by the committee at various locations within the affected area **revealed horizontal, lateral and vertical displacements with maximum value of cracks more than 50 cm.** The total affected area is noted to be approximately 8000 m<sup>2</sup>.

Figure omitted.

- The SDM Thathri and local residents informed the committee that the **incident initiated on 1<sup>st</sup> February, 2023 and continued till 5<sup>th</sup> February, 2023.** No new cracks are reported from 6<sup>th</sup> February, 2023 onward. The **total number of structures affected is 24 including 3 completely damaged structures, 11 having major cracks and 10 having minor cracks.**
- The slope of the affected area is towards north and approximately 65-70°. The affected area is pre-dominantly on schist bedrock overlain by thin layer of soil. The layer of the river born material exposed towards the crown of the landslide is not much affected by the landslide as only small cracks and subsidence are observed on the road (Figure 4). The Chenab River valley between Lalhote and New Thatri is made up mainly of slate, phyllite, schist, marble and orthogneiss. **The landslide affected slope at New Thatri is made up mainly of weathered schist intervened by un-weathered schist in between. The foliation**

**dips moderately towards the south.** The bedrock is traversed by two important joint sets forming wedges towards the daylight slope (Figure 4). The bedrock data from the immediate adjoining slope is also made up of highly weathered schist that dips moderately to gently towards the south with wide open fractures. The slope dips steeply towards the north. The Quaternary deposits and morphology of the Chenab River valley suggest that the valley is susceptible to landslides. Observation of landslide and lacustrine deposits in the slopes a height of about 200 m from the present river bed suggest that the **Chenab River was blocked by landslides from time to time.** The south facing slope that is the right bank slope of the Chenab River is more susceptible to landslides as number of old and active landslides are observed. Steep slopes are observed on both sides of the river valley the south facing slope being steeper than the north facing. Geological traverses were carried out along the road sections of the Nai Basti Thathri area. **The main rock types are schists and gneisses (Figure 5 c&b) of Salkhala Formation belonging to Proterozoic age.** The exposed rocks are slightly to moderately weathered in nature as per ISRM 1978. The details of the discontinuities are given in Table 2 and 3.

Figure omitted

**Table 2:** Discontinuities observed in the exposed schistose rock at the NH-244

Joint Set	Dip direction / Dip Amount	Spacing (cm)	Persistence (m)	Roughness*	Aperture (mm)	Infilling	WG*	Ground Water	Remark
Foliation	N140°/50°	40-100	5-15	S/U	Tight-2	None	WI-III	Dry	Foliation joint
J1	N050°/40°	10-30	5-10	S/U	Tight-2	None	WI-III	Dry	Critical joint
J2	230°/60-65°	10-20	>10	S/U	1-3	None	WI-III	Dry	Prominent joint
J3	N340°/40°	-	2-5	S/U	1-3	None	WI-III	Dry	Random joint

S/U\* Smooth undulating, WG\* Weathering grades

Joint set	Dip direction / Dip Amount	Spacing (cm)	Persistence (m)	Roughness*	Aperture	Infilling	WG	Ground water	Remark
Foliation	N160°/50°	8-20	5-15	R/U	Tight	None	WI-III	Dry	Foliation joint
J1	N 150°/90°	10-30	5-15	R/U	Tight	None	W-I	Dry	Prominent joint

R/U\* Rough undulating, WG\* Weathering grades

- The committee further noted that the **affected area did not have any ground water springs/streams, and no ground water bore-well.**
- The committee further examined the report produced by GSI, GoI, wherein the total rainfall was reported to be 201.2 mm during 20<sup>th</sup> January to 31<sup>st</sup> January, 2023. This **heavy rainfall spell might have resulted saturation of the soil/rocks which might have triggered slides.**
- **Minor cracks were observed by the committee on the road above the affected area, and in the adjoining structures.**

### **3. Recommendations by the Expert Committee**

- **No further civil construction** within the affected area of Nai Basti may be allowed. In view of the coming monsoon season, the affected area needs to be under observation of district administration. In case of any new sign of major cracks in houses outside the affected area, residents to be evacuated immediately. Moreover, as a precautionary measure, **people living in houses outside the affected area and adjoining houses/structures not yet affected may also be asked to relocate to a safer place.**
- **A retention wall of around 400 m with weep holes may be constructed near the base of the land slide area** (at the toe of the slope) at the road level to stop any further slope failure.
- **All cracks to be filled up with the cement slurry** well before the onset of monsoon to control the percolation of rain water/surface water and to monitor any further displacements.
- The **natural diversion and drainage channels within the area may be restored or renovated immediately** so that the surface run-off could be diverted. **Proper drainage and sewer plan for the entire area to be developed and implemented.**
- **Any further construction outside of the affected area only to be allowed after geotechnical assessments** such as soil bearing tests, etc. Since the affected area is situated just above the Chenab river channel, to stop the river erosion, **Gabion Wall with a suitable dimension may be constructed on the riverside.**
- The area lacks high resolution geotagged data of natural and man-made resources. Hence, a “geo-portal” containing the data/information of all the concerned departments/research institutions/agencies in one common platform may be developed (at 1:10,000 scale) by the district GIS cell in collaboration with Department of RS & GIS, Jammu University or such other agencies for better planning, management and regular monitoring.

- *Geomorphic map which could depict the spatial distribution landforms such as colluvial cones, colluvial fans, alluvial terraces, colluvial fans underlain by alluvial terraces, etc. composed of Quaternary deposits i.e., colluvium and alluvium is to be developed for the area under reference at 1:10000 scale for sustainable planning and development of all civil engineering works, their regular monitoring and management.*
- *Detailed Landslide Hazard Zonation of the entire new Thathri town is to be carried out, preferably by Geological Survey of India, in view of similar type of geological and geomorphologic setup in the Thathri area.*
- **No subsurface engineering activity may be allowed within an area circumscribing 500 m of the affected location.**
- **The present residents of the affected 24 houses of Nai Basti Thathri may be rehabilitated to a suitable safer location within the framework of applicable laws.**

#### **4. Suggestion by the Expert Committee**

*In steep mountainous terrain, geo-morphologically a hill spur has three components: crest, mid crest and foot slope. All these three components have distinct hydro-geomorphic processes and landforms. The area under reference lies on foot slope of Thathri hills spur. Figure 6 depicts the hydro-geomorphic cross-section of the foot slope zone of the Thathri hill spur which depicts: i) rain water recharge zone made-up of Quaternary landforms, i.e., colluvial fan underlain by the Chenab river terraces having very high infiltration capacity; and ii) sub-surface flow paths of infiltrated water causing earth creeping due to steadily increasing pore water pressure during rain resulting in development of multiple cracks, sinking of land, landslides and rock falls causing damages to buildings and roads constructed on this highly ill-suited site (may be due to ignorance of the local people and government also). It is suggested that for the sustenance of the environment, the Thathri type foot slope zones (Figure 6) of hill spurs in the entire District Doda should be mapped using geospatial technologies at 1:10,000 scale by which such ill-suited sites may avoided for civil engineering works in future.”*

5. The said Report of Committee was finalized in the meeting held on 22.05.2023 under Chairmanship of Chief Secretary on which date after deliberation for implementation of recommendations and suggestions made by Committee, following decisions were taken:

- “a. No further constructions within the affected area of Nai Basti may be allowed.*
- b. The recommendations of the committee may be conveyed to the local population for a stake-holder consultation by the District Administration within 15 days, so that further action on the recommendations of the committee could be taken.*
- c. Draft report was agreed in principle to be submitted to the Hon’ble Tribunal.”*

6. Report was considered by Tribunal on 25.05.2023. It was observed that the authorities are in the process of consulting stakeholders including local population for taking further action pursuant to Report. Since deliberation was under process, Tribunal granted time to the authorities to finalize the matter, prepare a plan for implementation of the recommendations made by Joint Committee and submit to Tribunal. Tribunal also said that Chief Secretary may set up a Special Task Force of the concerned Heads of Departments to finalize modalities of execution and the Action Plan may have short and long-term executable action points; and, technical assistance may be taken from any of the Member/Institution as per the Committee constituted as well as from any other Institution. It was also observed that if entire report, after hearing the stake holders is accepted, it shall be placed or any other action is proposed, the Action Taken Report shall be submitted before Tribunal.

**Action Taken Report dated 01.11.2023:**

7. Thereafter, a further Action Taken Report dated 01.11.2023 was filed by Principal Secretary, Department of Forest, Ecology and Environment Government of J&K, wherein it was said that Deputy Commissioner, District Doda was required to submit a prospective action plan after undertaking exercise of stakeholders’ consultation and preparation of an Action Plan, based on consultation and recommendations of experts. On

11.09.2023, Deputy Commissioner, District Doda submitted a file stating that a meeting of officers from PWD, Municipality Thathri and Sub-Divisional Magistrate Thathri was held in his office and after threadbare discussion, it was decided that estimates for slope stabilization, construction of drainage and other things like allotment of land shall be submitted by Superintending Engineer, PWD and SDM Thathri. A detailed project report for construction of drainage system, slope stabilization and protection work at the site of incident was submitted by Superintending Engineer, PWD. In regard to allotment of land for construction of houses by the affected person, Deputy Commissioner said that once Government takes a decision in this regard, only then the matter can be proceeded and relief cases along with demand of affected people were forwarded to Divisional Commissioner, Jammu for guidance. However, no action plan was submitted by Deputy Commissioner. After various correspondence and deliberations, certain decisions were taken as under:

***“(a) Proper drainage and sewer plan for the entire area to be developed and implemented.***

***Decision:*** Detailed Project Report to the tune of Rs. 37.64 lakhs for construction of Sewerage Disposal line of 2000 mtr prepared by the PWD (R&B) Department was agreed to be executed by the District Administration from funds out of its own resources, including the District Plan.

*(b)(i) Development of a “geo-portal” containing the data/information of all the concerned departments/research institutions/agencies in one common platform to be developed (at 1:10,000 scale) by the district GIS cell in collaboration with Department of RS & GIS, Jammu University.*

*(b)(ii) Geomorphic map which could depict the spatial distribution landforms such as colluvial cones, colluvial fans, alluvial terraces, colluvial fans underlain by alluvial terraces etc. to be developed for the area at 1:10,000 scale for sustainable planning and development of all civil engineering works, their regular monitoring and management.*

*(b)(iii) Detailed Landslide Hazard Zonation++- of the area to be carried out, in association with Geological Survey of India.*

*(b)(iv) Mapping of Thathri type foot slope zones of hill spurs in the entire District Doda using geospatial technologies at 1:10,000 scale by which such ill-suited sites may be avoided for civil engineering works in future.*

**Decision:** *District Administration was given a go-ahead for all the above proposals, in association with University of Jammu, Geological Survey of India, Department of Geology & Mining etc., as per requirement.*

*(c)(i) Detailed Project Report amounting to Rs. 548.98 lakhs for construction of retention wall of around 400 m with weep holes has been prepared by the PWD (R&B) Department to stop further slope failure.*

*(c)(ii) To stop river erosion, Detailed Project Report amounting to Rs. 597.71 lakhs for construction of 402 m Gabion structure and river training works by way of removal of silt deposition from right bank of river Chenab has been prepared by the PWD (R&B) Department.*

*(c)(iii) Detailed Project Report for construction of Drain with Breast wall amounting to Rs. 32.21 lakhs has been prepared by the PWD (R&B) Department.*

**Decision.** *The detailed proposals for these engineering works shall be referred to the expert members of the Joint Committee, who may examine the same and offer their technical inputs on the sufficiency or otherwise of the proposals to offer protection to the area, within 15 days. The works may thereafter be executed, after reducing the cost estimates, if it is felt that the same shall be adequate and sufficient to prevent any further damage or untoward incident.*

**(d)** *It was proposed that out of an initially reported 19 cases, after verification, 14 cases have been found eligible for relief. However, none of the house owners are found to be owners of the land on which the houses have been built, the land being either Shamlat Deh or Kacharaie land. Since the occupants are illegal, they do not fall under SDRF norms for payment of relief or compensation. Further, in five cases, the occupants are landless and do not possess land elsewhere.*

**Decision.** *Alternate land may be provided to the five cases of landless persons, as per policy under PMAY(G)."*

8. With regard to rehabilitation, Report said that the matter was discussed in detail. Administration informed that affected persons were immediately shifted to safer buildings upon receipt of reports of damage to houses. Later on, they were shifted to their own villages or houses of relatives/friends. Deputy Commissioner also informed that three structures completely got damaged and 11 got severely damaged. District Administration had kept the houses under observation to note any expansion in cracks or any other subsequent change. Out of initially reported 19 cases, after verification, 14 cases were found eligible for relief. However, none of the house owners were found to be owner of the land on which the houses were built, the land being either Shamlat Deh or Kacharaie land; since occupants were possessing land illegally, they did not answer SDRF norms for payment of relief or compensation; further, in five cases, occupants were landless and did not possess land elsewhere; it was decided that alternate land may be provided to five cases of landless persons, as per policy under Prime Minister Awaas Yojna (Gramin).

9. The decision taken in the meeting was communicated to concerned Administrative Secretaries and Deputy Commissioner, Doda for necessary action vide department's letter dated 01.11.2023. Report also said that Expert Members of Joint Committee were requested by letter dated 01.11.2023 that detailed proposals referred in action plan submitted by Deputy Commissioner, Doda regarding construction of retention wall of around 400 m with weep holes (DPR amounting to Rs. 548.98 lakhs), drains with breast wall (DPR amounting to Rs.32.21 lakhs) and Gabion structure of 402 m and river training works by way of removal of silt deposition from right bank of river Chenab (DPR amounting to Rs. 597.71 lakhs) be examined and technical inputs on sufficiency or otherwise of the

proposals to offer protection to the area may be provided in 15 days. The report also included long term and short term measures on 12 action points in the form of a chart as under:

S N	Action Point (Recommendations of Joint Committee)	Action taken	Action by (Department)	Estimated Cost (in lacs)	Proposed source of funding	Long Term/ Short Term
1	No further civil construction within the affected area of Nai Basti may be allowed. In view of the coming monsoon season, the affected area needs to be under observation of district administration. In case of any new sign of major cracks in houses outside the affected area, residents to be evacuated immediately. Moreover, as a precautionary measure, people living in houses outside the affected area and adjoining houses/structures not yet affected may also be asked to relocate to a safer place.	The Nai Basti area falls within the Municipal limits of Thathri. In this regard, the Executive Officer MC Thathri has been directed to ensure that no new construction should be allowed in and around the affected area of Nai Basti Thathri. The Tehsildar Thathri and Executive Officer MC Thathri have also been directed to keep the affected area and its surrounding under strict vigil and in case any new sign of major cracks are observed, District Administration Doda should be informed immediately, so that the necessary measures/steps can be taken for evacuating the families residing in the adjoining areas to a safer place. The families residing at Nai Basti outside the affected area have also been directed to remain vigilant and shift to any other safer place.	District Administration/ Urban Local Bodies	-	-	Long term
2	A retention wall of	Detailed Project	PWD	548.9	-	Long

	around 400 m with weep holes may be constructed near the base of the land slide area (at the toe of the slope) at the road level to stop any further slope failure.	Report for construction of retention wall has been prepared by the PWD (R&B) Department	(R&B) Department	8		Term
3	All cracks to be filled up with the cement slurry well before the onset of monsoon to control the percolation of rain water/surface water and to monitor any further displacements.	Detailed Project Report for construction of Drain with Breast wall has also been prepared by the PWD (R&B) Department	PWD (R&B) Department	32.21	-	Long Term
4	The natural diversion and drainage channels within The area may be restored or renovated immediately so that the surface run-off could be diverted. Proper drainage and sewer plan for the entire area to be developed and implemented.	Detailed Project Report for construction of Sewerage Disposal line of 2000 mtr has been prepared by the PWD (R&B) Department	PWD (R&B) Department	37.64	-	Long Term
5	Any further construction outside of the affected area only to be allowed after geotechnical assessments such as soil bearing tests etc. Since the affected area is situated just above chenab river channel, to stop the river erosion, Gabion Wall with a suitable dimension may be constructed on the riverside.	Detailed Project Report for construction of 402 mtr Gabion structure and river training works by way of removal of silt deposition from right bank of river Chenab has been prepared by the PWD (R&B) Department	PWD (R&B) Department	597.71	-	Long Term
6	The area lacks high resolution	The matter regarding	District Administr	-	-	Short Term

	<p>geotagged data of natural and manmade resources. Hence, a “geo-portal” containing the data/ information of all the concerned departments/ research institutions/ agencies in one common platform may be developed (at 1:10,000 scale) by the district GIS cell in collaboration with Department of RS &amp; GIS, Jammu University or such other agencies for better planning, management and regular monitoring.</p>	<p>development of a “Geo Portal” has been taken up with the Department of RS &amp; GIS, Jammu University</p>	<p>ation</p>			
7	<p>Geomorphic map which could depict the spatial distribution landforms such as colluvial cones, underlain by alluvial terraces etc. composed of Quaternary deposits i.e., colluvium and alluvium is to be developed for the area under reference at 1:10000 scale for sustainable planning and development of all civil engineering works, their regular monitoring and management.</p>	<p>The matter has been taken up with the Remote Sensing &amp; GIS Department, and Mining Department Doda for preparation of Geomorphic map of the affected area and other vulnerable sites in the District</p>	<p>Geology and Mining Doda</p>	-	-	Short Term
8	<p>Detailed Landslide Hazard Zonation++ of the entire new Thathri town is to be carried out, preferably by Geological Survey of</p>	<p>The matter has been taken up with the Geological Survey of India for Detailed landslide Hazard Zonation of the entire area.</p>	<p>District Administration</p>	-	-	Short Term

	<i>India, in view of similar type of geological and geomorphologic setup in the Thathri area.</i>					
9	<i>No subsurface engineering activity may be allowed within an area circumscribing 500 m of the affected location</i>	<i>All the Executing agencies have been directed to avoid any engineering activity within an area circumscribing 500 m of the affected area of Nai Basti Thathri.</i>	<i>All Executing Agencies</i>	-	-	<i>Long Term</i>
10	<i>The present residents of the affected 24 houses of Nai Basti Thathri may be rehabilitated to a suitable safer location within the framework of applicable laws.</i>	<i>All the affected families were shifted to nearby Govt. buildings Including Schools. At present most of the affected families have shifted to their native villages and some are temporarily residing with their relatives. Further the matter regarding providing of alternate land to the affected families has been taken up with the higher authorities.</i>	<i>District Administration</i>	-	-	<i>Long Term</i>
11	<i>The Expert Committee also suggested that for the sustenance of the environment, the Thathri type foot slope zones of hill spurs in the entire District Doda should be mapped using geospatial technologies at 1:10,000 scale by which such ill-suited sites may be avoided for civil engineering works in future.</i>	<i>The matter regarding mapping of foot slope zones of hill spurs using Geospatial technologies in the entire District Doda has been taken up with the concerned agencies and all the Executing agencies have been directed to avoid any civil engineering activity in and around the affected area</i>	<i>District Administration</i>	-	-	<i>Short Term</i>
12	<i>Any other action proposed by District</i>	<i>The affected families may be</i>	<i>District Administration</i>	-	-	<i>Short Term</i>

	<i>Administration</i>	<i>provided relief for their damaged structures irrespective of title of the land. The matter for providing of relief under SDRF for affected structures has already been taken up with the Govt.</i>				
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10. Tribunal considered above Report on 02.11.2023. It was noticed that on the issue of rehabilitation, report was not clear. Though 14 cases were found eligible for relief but it is said that they did not answer SDRF norms without placing on record the alleged SDRF norms and it was also not shown that SDRF norms are attracted in this case. Tribunal enquired as to how these norms will be applicable to the cases in hand but got no reply hence directed State to file a fresh report with all supporting material in this regard.

**Compliance Report/Action Taken Report dated 08.12.2023:**

11. Consequently, a Compliance Report/Action Taken Report dated 08.12.2023 has been filed by Special Secretary (Technical), Department of Forest, Ecology and Environment Government of J&K. It gives details of action taken as under:

*“4. That Deputy Commissioner, Doda vide reference No. DCD/R/2023/931-32 dated 08.12.2023 (copy of the letter attached as Annexure-C) has submitted action taken report as under: -*

*a) The affected families whose houses were damaged severely/ fully/ partially, were immediately shifted to nearby Govt. School building and Prefabricated shed. The Relief materials were also provided among the affected families as immediate assistance by the District Administration in addition the Meals were also provided to the affected families till they have shifted their native*

places/ made some alternative arrangements. The details of the immediate assistance provided are as under:

1. Blankets = 100 nos.
2. Kitchen Sets = 20 nos.
3. Bucket = 20 nos.
4. Mug = 20 nos.

b) As per the report submitted by the Revenue functionaries regarding the damages at Nai Basti Thathri, **24 structures were affected, out of which 03 were fully damaged, 11 severely damaged and remaining 10 structures had minor damage.** The details of affected structures as well as the landless families are as under:

S N	Name of Head of Family with parentage	Residential Address	No of family memb ers	Occupation	Type of land and (or) structure	Remarks
1	Sh. Riaz Ahmed S/o Sh. Ghulam Hassan Shah	Joura Kalan A/P Thathri	06	Govt. employee	Residential House single story (No entry of land in the revenue record).	Fully damaged structure
2	Sh. Tariq Hussain S/o Sh. Qutab Din	Malhota Tehsil Bhella A/P Thathri	05	Govt. employee	Kahchhari Land Residential House 02 story (Pacca)	Fully damaged structure
3	Sh. Noor Mohd S/o Noor Ali	Thathri	06	J&K Police	Shamlat Deh Residential House 03 story (Pacca)	Fully damaged structure
4	Sh. Shandin S/o Hazoor Din	Chomoti Tehsil Drab Shalla A/P Thathri	05	Labourer	Shamlat Deh Residential House 04 story (Pacca)	Severely damaged structure
5	Sh. Abdul Wahid S/o Hazoor Din	Chamoti Tehsil Drab Shalla A/P Thathri	07	Labourer	Shamlat Deh Residential House 03 storey (Pacca)	Severely damaged structure
6	Sh. Abdul Kabir S/o Sh. Hazoor Din	Chomoti Tehsil Drab Shalla A/P Thathri	07	Labourer	Shamlat Deh Residential	Severely damaged structure

					House 02 storey (Pacca)	
7	Sh. Mohd Irfan S/o Sh. Mohd Ayoub	Sunarthawa Tehsil Chiralla A/P Thathri	02	Labourer	Kahchhari Land Residential House 01 storey (Pacca)	Severely damaged structure
8	Sh. Shafqat Hussasin S/o Sh. Mohd Ayoub	Sunarthawa Tehsil Chiralla A/P Thathri	05	Labourer	Kahchhari Land Residential House 01 storey (Pacca)	Severely damaged structure
9	Sh. Mohd Ayoub S/o Sh. Gander Khan	Joura Khurad Tehsil Kahara	0	Govt. Service	Shamlat Deh (Sports Club Pacca)	Severely damaged structure
10	Usmania Masjid Sharief	Usman Mohalla Nai Basti Thathri	N/A	N/A	02 Storey (Pacca) (Not entered in the revenue record)	Severely damaged structure
11	Sh. Ali Mohd S/o Sh. Abdul Rashied	Thathri	12	Casual Labour in Shrine Board	Kahchhari Land Residential House 02 storey (Pacca)	Severely damaged structure / landless
12	Sh. Shams Din S/o Sh. Ab. Rashied	Thathri	04	Labourer	Kahchhari Land Residential House 02 storey (Kacha)	Severely damaged structure / landless
13	Sh. Mohd Iqbal S/o Sh. Abdul Rashied	Thathri	04	J&K Police	Kahchhari Land Residential House 03 storey (Pacca)	Severely damaged structure / landless
14	Sh. Mohd Imran S/o Sh. Ali Mohd	Thathri	03	Labourer	Kahchhari Land Residential House 01 storey (Kacha)	Severely damaged structure / landless
15	Sh. Jamsheed S/o Sh. Ghulam Qadir	Thathri	04	Labourer	Kahchhari Land Residential House 02 storey (Pacca)	Partially damaged structure / landless
16	Sh. Nazir Ahmed S/o Sh. Abdul Rashied	Thathri	04	SPO	Kahchhari Land Residential House 03 storey	Partially damaged structure / landless

						(Pacca)	
17	Sh. Abdul Farooq S/o Sh. Abdul Subhan	Indralla A/P Thathri	05	Labourer	Shamlat Deh Residential House 01 storey (Pacca)	Partially damaged structure	
18	Sh. Mohd Ashraf S/O Sh. Nazir Ahmed	Darai Tehsil Gandoh A/P Thathri	06	Defence Service	Shamlat Deh Residential House 02 storey (Pacca)	Partially damaged structure	
19	Sh. Mohd Irfan S/O Sh. Bashir Ahmed	Joura Kalan Tehsil Kahara A/P Thathri	08	Ex-Serviceman	Shamlat Deh Residential House 03 storey (Pacca)	Partially damaged structure	
20	Javed Ahmed S/O Gandra Khan	Joura Khurd Tehsil Kahara A/P Thathri	N/A	Govt. Employee	No Damage	Red Zone/ Danger Zone	
21	Mansoor Ahmed S/O Ghulam Nabi	RIO Amrit Garh Tehsil Chiralla A/P Thathri	N/A	Govt. Employee	No Damage	Red Zone/ Danger Zone	
22	Riyaz Ahmed S/O Bashir Ahmed	Thathri	N/A	Ex-Serviceman	No Damage	Red Zone/ Danger Zone	
23	Mohd Sharief S/O Shamas Din	Gosti Tehsil Chiralla A/P Thathri	N/A	-	No Damage	Red Zone/ Danger Zone	
24	Madrasa Girls	Thathri	N/A	-	No Damage	Red Zone/ Danger Zone	

c) As reported by Sub Divisional Magistrate Thathri **there are 06 families, who were found to be landless. Alternate State land to the quantum of 05 marlas each has been allotted in favour of all these 06 landless families under prevalent PMAY(G) norms.**

d) In addition to the immediate relief as mentioned above which include boarding/lodging and all necessary relief like food, blankets, etc till the time they shifted to their relative's places on voluntary basis, relief amount **as admissible under SDRF norms for various categories viz, Fully damaged, Severely damaged and Partially damaged (Kacha and Pacca) has been sanctioned for 19 cases that fell within the preview of SDRF and is under disbursement at present.**"

12. This Report was considered by Tribunal on 11.12.2023. It was observed that occupation of land in question and raising of construction by affected persons was due to inaction, inefficiency or lack of monitoring or supervision on the part of the authorities. Stakes were allowed to be created due to failure on the part of UT and its authorities in observance of its duties and responsibilities and stakes have been allowed to be created on the land in question for the reasons attributable to State's inaction. Hence, Union Territory and its authorities cannot be absolved of their responsibility of compensating the people who have suffered loss or damages at the land in question for the reasons, not attributable to these persons, but man-made situations which also have arisen due to inaction on the part of the authorities of the State. *Prima-facie*, it was observed that State is liable to pay compensation, to the extent, damage has been suffered by the people in raising structures on the land in dispute. Committee headed by Chief Secretary, therefore, was permitted to re-look into the matter and take appropriate decision, founded on welfare and humanitarian ground and submit its report.

**Action Taken Report dated 12.02.2024:**

13. Pursuant thereto, a further Action Taken Report dated 12.02.2024 has been filed by Special Secretary (Technical), Department of Forest, Ecology and Environment Government of J&K. It is said that a meeting was held under the Chairmanship of Chief Secretary on 08.01.2024 and following decisions were taken:

- “1. *The inputs dated 07.12.2023 received from Expert Members will be referred to Public Works (R&B) Department for necessary action.*
2. *It was decided that a meeting of the Joint Committee constituted by the National Green Tribunal in the matter will be convened to discuss the true regarding rehabilitation raised in the Orders of*

*Hon'ble National Green Tribunal in the orders dated 02.11.2023 and 11.12.2023."*

14. Further a meeting of Joint Committee under chairmanship of Chief Secretary was held on 08.02.2024 and relevant extract of the minutes of the meeting contained in annexure-C of the Report dated 12.02.2024 reads as under:

*"9. The members of the Committee were of the view that the spirit of the orders of the Hon'ble Tribunal should be respected. The Members felt that the **matter was of a nature where it should be handled with sensitivity as well as with accountability**. The members discussed various connected issues like:*

- The title of the land over which these structures were constructed, and norms municipal compliances/ followed in their construction.*
- **Whether mishap could be said to be totally a manmade disaster.***
- **Whether the damages could be said to be not at all attributable to the actions of the owners?***
- Compensation payable in similar cases, for compulsory acquisition, under the provisions of Land Acquisition Act;*
- Is there any provision for compensating such cases in J&K/ Govt. of India/ other states and UTs.*
- If compensation/ relief is required to be paid, what should be the scale/ norms?*
- Can encroachments/ illegal occupation be liable for compensation, if affected by disaster.*
- Can funds from the public exchequer be utilized for compensating such damage or should the officers/ officials who have let the situation arise be made liable.*
- Doesn't this become a precedent in all such cases of illegal encroachments, across the UT and the country?*

10. *The above issues were deliberated in detail and following facts were noted/ observations made:*

- a) *The **structures have been made on Kahcharai/State land and in violation of municipal norms. The structures are per se illegal.***

- b) **These have been done with full knowledge and connivance of the private owners and public servants, mandated with the responsibility of ensuring rule of law.** Therefore, neither the private owners nor the concerned public servants, absolve themselves of the responsibility; Therefore, **it perhaps cannot be said that the damages are not at all attributable to the actions of the owners.**
- c) **The damages were a result of the landslide/soil slippage.** This was because of the poor land stability and lack of proper drainage. Therefore, **the mishap was a result of combination of both - manmade as well as natural factors.**
- d) **No compensation is payable even in cases where such illegal structure are compulsorily acquired under the Land Acquisition Act.**
- e) The meeting was informed that **relief as per the SDRF norms has been provided.** Land under PMAY(G) norms has also been provided to the landless, as per norms. **The meeting was informed that there is no policy/norm under which the damages to illegal structures could be compensated.** The members were not aware if any such provision existed in any other State or UT. The possibility appeared remote because even the norms of Land Acquisition Act do not provide such compensation.
- f) The members were also of the view that there are a number of such vulnerable areas of state land which have been encroached over the past years and constructions raised illegally by occupants not only in this affected area but also throughout the UT of J&K and even other Himalayan States. The other Expert Members were also of the view that proper arrangements are required to be made to deal with the issue of illegal occupation and due consideration should be given to the fact that actions taken in the current case may lead to a situation where a precedence is set for future incidents. Dr. Jose also pointed out that illegal occupation are an issue in the flood plains of major rivers also. The Expert Members also noted that the manner in which such cases are dealt with by other Himalayan States like Uttarakhand and Himachal Pradesh may also be studied as those States are also prone to such incidents.
- g) The Chief Secretary, J&K observed that the **damage occurring at such a site is to be compensated then the manner in which the damage is assessed must be established for all cases uniformly.** The scale and norms for the compensation would need to be defined.
- h) The participating officers as well as the Expert Members felt that if payment of compensation is considered in this case, then there is a possibility that it may become a precedent which may

*lead to escalation of further encroachments and illegal occupations. Hence, there is a need for the UT Government to be circumspect in this matter in order to avoid opening a pandoras box. Prof. J.S Rawat, Dr. Ritesh Agarwal, Dr. D.S Rawat and Dr. PG Jose also agreed and felt that this should be dealt with as a policy matter and necessary guidelines should be framed before proceeding further.*

- i) *The Law Secretary was of the opinion that **since there are no rules guidelines at present which could be followed by the UT Government, proceeding to pay compensation will be setting a new precedence in the UT. Therefore, if the Committee agrees, the Hon'ble Tribunal may be approached for guidance on the manner in which to proceed further.***

11. *It was agreed that the spirit of the approach of the Hon'ble Tribunal is respected and the UT Government has made efforts to proceed according to the same spirit. However, in absence of rules/guidelines it was felt that the issue of whether any structure raised illegally on state land should be compensated if damaged at the cost of the public exchequer. Moreover, **what principle should be used for assessment of the assets, whether construction, agriculture, horticulture or other assets that may get damaged on state land occupied illegally by encroachers.** Further, the guidelines on the procedure of assessment and quantum of assessed amount to be paid may also required to be framed.*

15. The report said that Joint Committee decided to place the matter before this Tribunal for providing guidelines on the manner in which State is required to proceed further. In this backdrop, the matter was heard finally on 13.02.2024.

#### **ISSUES:**

16. The issues, which required adjudication of Tribunal are as under:
- (I) Whether any time bound action plan is required to be prepared and executed for the area in question for its sustenance so as to avoid any further recurrence causing damage to property of the residents?
- (II) What relief can be granted to the affected persons?

**ISSUE I:**

17. **Coming to the first question,** we find that Joint Committee in its Report has clearly made various recommendations and suggestions. It is not the case of J&K UT and its authorities that recommendations and suggestions made by Joint Committee in its Report dated 24.05.2023 are impracticable or do not attract to meet the problem, which has arisen in the area concern or there exist any other reasons for not accepting and giving effect to the said recommendations and suggestions. Subsequent action taken in various meetings headed by Chief Secretary also show that decision was taken to finalize modalities of execution and prepare action plan with short and long-term executing points which means that there is no hesitation or objections to Joint Committee Report and its recommendations and suggestions. If that being so, we do not find that the above recommendations and suggestions made by Joint Committee in its Report dated 24.05.2023 should not be implemented.

18. We accept Joint Committee Report and direct Chief Secretary, Government of Jammu & Kashmir to take all steps to give effect to and implement recommendations and suggestions made in Joint Committee's Report dated 24.05.2023, in a timeline manner, which should not go beyond one year from today and submit a compliance Report to Registrar General of this Bench within 15 days after expiry of one year from today.

**ISSUE II:**

19. **Now coming to the second question,** it is the admitted position that in the area in question i.e., Nai Basti Thathri, 24 structures have got damaged. Three have completely damaged, eleven severely and ten have developed minor damages. Compensation to the affected parties due to the

above damage to property have been denied, primarily on the ground that they are not covered by SDFR norms and also compensation under the provisions of Land Acquisition Act, 1894 for such constructions is not attracted in as much as the land on which structures were raised belong to State and, therefore, constructions raised were illegal and occupation on the land was also unauthorized, hence, no compensation is payable.

20. Our earlier orders had shown that we required State of Jammu & Kashmir to inform as to how SDRF norms can be applied to the case in hand when damage has caused not on the account of natural disaster but the situation which has arisen due to man-made reasons i.e., constructions raised on a land without its proper examination with regard to soil quality, retention capacity etc. and this could be possible since the authorities who have statutory duty of prevention, failed to discharge their obligation. Respondents were directed to place documents to show as to how SDRF norms can be sought to be relied but the said norms have not been shown to us. Nothing has been placed on record to show that SDRF norms are attracted in this case. Damage has occurred in the present case not due to natural disasters and if that be so, policy under SDRF norms is not applicable to the case in hand. Reliance placed on SDRF norms, therefore, is clearly misconceived.

21. Similarly, there is no case of acquisition of land, therefore, provisions of Land Acquisition Act, 1894 are obviously not attracted.

22. Here is a case where constructions have been made by certain persons on a land which was earlier marked as Shamlat land i.e., village pasture land though the area ceased to be a part of village as it had come within the jurisdiction of Thathri Municipality in 2014. It is true that the

land did not belong to the occupants who raised their residential houses over the land in question but the fact remains that this could happen due to ignorance or deliberate or passive permission of the authorities concerned who were responsible for looking after the said land and to ensure that no person unauthorizedly or illegally occupy the same. A judicial notice can be taken of the ground level reality that population is increasing but the area of land is not changing. Therefore, to accommodate the people, the land is required and it is this compulsion which is leading the people to look after the land wherever it is available and when there is no obstruction, prevention or resistance, they make their inhabitants on such land for their survival. We are not approving the unauthorized or illegal possession obtained by the affected persons but the fact remains that they could raise constructions of their residential structure on account of the lack of discharge of duties and responsibilities by the State Authorities. Moreover, it is not a case, where these affected persons are sought to be evicted or dispossessed by the authorities concerned in exercise of their statutory right to get State's land vacated but here is a case where on account of the slipping of land/slope, which situation has arisen due to omission on the part of State authorities, soil has slipped causing damage to structures of individual poor people and their structures have suffered due to man-made crisis. Hence, in a welfare state, where the hard earned money of poor people had lost in the form of damage to their residential habitat in the area in question, State not only should provide them immediate remedy but also provide adequate compensation necessary for their survival. State Authorities have admitted that in any case, occupants of affected area are partly responsible, meaning thereby, as per the case of State Authorities, it is a case of contributory negligence

where not only State Authorities are responsible but partly the affected persons are also responsible. The fact remains that by raising construction on the land in question without proper examination with respect to geo-technical assessment such as soil bearing test etc., ecological damage has been caused, which has resulted in the soil slipping and damage to the residential structures of the affected persons.

23. In such circumstances, under Section 15 read with Schedule II(e) of NGT Act 2010, this Tribunal can award relief in the form of compensation to the person for restitution of the property damaged and wherever such restitution is not possible to provide assistance to the affected parties in the form of compensation so that they may seek alternative accommodation at some other place.

24. In the above backdrop, we constitute a Joint Committee comprising District Magistrate, Doda, Environmental Engineer, PWD, representative of Municipality Thathari and any such person who is found necessary for compliance of this order by the above Committee to be included therein, to assess the quantum of damage suffered by the persons whose residential structures have suffered cracks/damage and, thereafter, award 50% (since the respondent State has also admitted that some part of the fault also lies with the affected parties meaning thereby a case of contributory negligence has been pleaded) of the amount assessed as compensation, to the affected persons.

25. District Magistrate, Doda shall be the nodal agency for co-ordination and compliance.

26. Joint Committee shall make the assessment, as directed above, within three months and, thereafter, payment of compensation as directed above, shall be made within two months thereafter.

27. OA is disposed of with the above directions.

28. Copy of this judgement shall be forwarded to District Magistrate, Doda; Municipality Thathari and PWD for compliance.

29. Compliance Report shall be submitted by District Magistrate, Doda within 15 days after expiry of four months' period, as allowed above, to Registrar General of this Bench who if finds necessary, shall place the matter before the Bench of Tribunal for further directions, if any is required.

**PRAKASH SHRIVASTAVA,**  
CHAIRPERSON

**SUDHIR AGARWAL,**  
JUDICIAL MEMBER

**DR. A. SENTHIL VEL,**  
EXPERT MEMBER

March 15, 2024  
Original Application No. 93/2023  
R

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केन्द्रीय प्रदूषण नियंत्रण बोर्ड  
क्षेत्रीय निदेशालय, चण्डीगढ़  
Central Pollution Control Board  
Regional Directorate, Chandigarh

(पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय, भारत सरकार)  
(MINISTRY OF ENVIRONMENT, FOREST & CLIMATE CHANGE, GOVT. OF INDIA)

Through Email and Speed Post

CPCB/RD/CHD/NGT/ 2024/ 80

Date: 27.08.2024

सेवा में,  
सदस्य सचिव  
जम्मू और कश्मीर प्रदूषण नियंत्रण समिति (J&KPCC)  
परिवेश भवन, वन परिसर, ग्लैडनी, नरवेल, ट्रांसपोर्ट नगर, जम्मू - 180004  
जम्मू और कश्मीर

Sub: Directions of Hon'ble NGT dated 30.05.2024 in the matter of OA No. 642/2024;  
News item titled "Land sinking: A new environmental challenge in J & K appearing  
in greater kashmir.com dated 29.04.2024" -reg.

Sir,

This has reference to the directions of the Hon'ble National Green Tribunal dated 30.05.2024 (copy enclosed) in the matter of OA No. 642/2024; News item titled "Land sinking: A new environmental challenge in J & K appearing in greaterkashmir.com dated 29.04.2024". It is also mentioned in the Order that "The news item mentions that last year, a panel of the National Green Tribunal, after conducting studies had recommended banning civil construction in the land subsidence-hit area in Doda District (OA No. 93/2023).

In the above NGT Matter, Hon'ble NGT has impleaded 07 respondents including CPCB and J&K PCC and directed them to submit their response at least one week before the next date of hearing i.e. 17.09.2024.

In this regard, it is requested to co-ordinate with the concerned departments and the action taken report (ATR) with regard to *various actions taken by the concerned departments in this matter*, may please be provided to Central Pollution Control Board at [rdchandigarh.cpcb@nic.in](mailto:rdchandigarh.cpcb@nic.in) and [sharandeep.cpcb@gov.in](mailto:sharandeep.cpcb@gov.in) at the earliest possible preferably latest by 07/09/2024.

This may kindly be treated urgent, as the matter is listed on 17.09.2024.

सादर,

(डॉ. नरेन्द्र शर्मा)

वैज्ञानिक 'एफ' / निदेशक

Copy to:

1. DH, UPC-I, CPCB Head Office, Delhi: for information please.
2. Ms. Nikita, Grover, Sc. 'B', CPCB, RD Chandigarh: for follow up please.

वैज्ञानिक 'एफ' / निदेशक

**Fwd: Directions of Hon'ble NGT dated 30.05.2024 in the matter of OA No. 642/2024; News item titled "Land sinking: A new environmental challenge in J & K appearing in greater kashmir.com" dated 29.04.2024 -reg.**

**SS** SHARANDEEP SINGH <sharandeep.cpcb@nic.in>

Thu, 05 Sep 2024 3:00:28 PM +0530

To "Danish Meena" <danish.cpcb@nic.in>, "PALASH MAL" <palashmal.cpcb@supportgov.in>

==== Forwarded message =====

From: Nikita Grover <[nikitag.cpcb@gov.in](mailto:nikitag.cpcb@gov.in)>

To: "Member JKPC" <[membersecy.pcb@jk.gov.in](mailto:membersecy.pcb@jk.gov.in)> ,

"membersecretaryjkspcb" <[membersecretaryjkspcb@gmail.com](mailto:membersecretaryjkspcb@gmail.com)>

Cc: "Narender Sharma" <[narendersharma.cpcb@nic.in](mailto:narendersharma.cpcb@nic.in)> , "R D

Chandigarh" <[rdchandigarh.cpcb@nic.in](mailto:rdchandigarh.cpcb@nic.in)> , "SHARANDEEP SINGH" <[sharandeep.cpcb@nic.in](mailto:sharandeep.cpcb@nic.in)>

Date: Thu, 05 Sep 2024 10:04:45 +0530

Subject: Fwd: Directions of Hon'ble NGT dated 30.05.2024 in the matter of OA No. 642/2024; News item titled "Land sinking: A new environmental challenge in J & K appearing in greater kashmir.com" dated 29.04.2024 -reg.

==== Forwarded message =====

Sir,

This is a **reminder** to the trailing mail regarding the Directions of Hon'ble NGT dated 30.05.2024 in the matter of OA No. 642/2024; News item titled "Land sinking: A new environmental challenge in J & K appearing in greater kashmir.com" dated 29.04.2024.

Please take this as urgent, as **the matter is listed on 17.09.2024**.

Regards/सादर

Nikita Grover/निकिता प्रोवर

Scientist-B/वैज्ञानिक-ख

Central Pollution Control Board/केंद्रीय प्रदूषण नियंत्रण बोर्ड

Regional Directorate, Chandigarh/क्षेत्रीय निदेशालय, चंडीगढ़

BSNL Telephone Exchange, 2nd Floor, Sector 49-C, Chandigarh-160047/बीएसएनएल टेलीफोन एक्सचेंज, दूसरी मंजिल, सेक्टर 49-सी, चंडीगढ़-160047

==== Forwarded message =====

From: Nikita Grover <[nikitag.cpcb@gov.in](mailto:nikitag.cpcb@gov.in)>

To: "Member JKPC" <[membersecy.pcb@jk.gov.in](mailto:membersecy.pcb@jk.gov.in)> ,

"membersecretaryjkspcb" <[membersecretaryjkspcb@gmail.com](mailto:membersecretaryjkspcb@gmail.com)>

Cc: "Narender Sharma" <[narendersharma.cpcb@nic.in](mailto:narendersharma.cpcb@nic.in)> , "R D

Chandigarh" <[rdchandigarh.cpcb@nic.in](mailto:rdchandigarh.cpcb@nic.in)> , "SHARANDEEP SINGH" <[sharandeep.cpcb@nic.in](mailto:sharandeep.cpcb@nic.in)>

Date: Thu, 29 Aug 2024 15:33:21 +0530

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Subject: Directions of Hon'ble NGT dated 30.05.2024 in the matter of OA No. 642/2024; News item titled "Land sinking: A new environmental challenge in J & K appearing in greater kashmir.com" dated 29.04.2024 -reg.

===== Forwarded message =====

Sir,

I am directed to forward the attached letter regarding the Directions of Hon'ble NGT dated 30.05.2024 in the matter of OA No. 642/2024; News item titled "Land sinking: A new environmental challenge in J & K appearing in greater kashmir.com" dated 29.04.2024.

This may kindly be treated urgent, as the matter is listed on 17.09.2024.

Regards/सादर

Nikita Grover/निकिता ग्रोवर

Scientist-B/वैज्ञानिक-ख

Central Pollution Control Board/केंद्रीय प्रदूषण नियंत्रण बोर्ड

Regional Directorate, Chandigarh/क्षेत्रीय निदेशालय, चंडीगढ़

BSNL Telephone Exchange, 2nd Floor, Sector 49-C, Chandigarh-160047/बीएसएनएल

टेलीफोन एक्सचेंज, दूसरी मंजिल, सेक्टर 49-सी, चंडीगढ़-160047

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