

TRIPURA HUMAN RIGHTS COMMISSION
KUNJABAN: AGARTALA
PIN – 799006

Complaint No. 12 of 2024
(A Suo-Motu cognizance)

{Unscientific construction of NH44-A by NHIDCL}

FINAL ORDER
Dated, 1st of January-2025

On the basis of newspaper reports, Suo-Motu cognizance by the Commission was taken and an inquiry was initiated under an order dated 03/07/2024, which reads as follows:

“Attention of the Commission has been drawn to numerous reports published in different newspapers including one Tripura Times, dated 25th June -2024 and 2nd July-2024, wherein, it is reported that NH44-A has been constructed by NHIDCL through Tlakshi village under Vangmoon Tehsil Kachari of North Tripura District and it is reported that because of irresponsible and unscientific construction of the road, there were huge landslides in the surrounding areas causing immense hazard to the residents of the area.

It has also been reported that numerous graveyards have exposed because of the massive landslide and as a result the skeletons of the buried bodies came out of the buried condition for which the local people had shifted those skeletons for burial again in different other places. It is also reported that NH 44 A has been blocked because of the landslide in different places of Jampui Hills in the village Tlakshi and Humnpui. It is also reported that because of unscientific cutting of hill sides without keeping proper slope etc. as well as without having any protection, the cutting of earth has created the situation which has traumatized the common people of that locality.

It has also been brought to the notice of the Commission that the State Government while noticed the serious condition of the villages, constituted an expert committee on 26/07/2023 consisting of nine members headed by Er. Ratiranjan Debnath, SE, PWD(R&B), 1st Circle, Kumarghat and that Committee after field visit submitted a detailed report with photographs to the State Government suggesting certain immediate measures.

Thereafter, another expert committee was constituted by the State Government vide memo dated 05/08/2023 and the Committee again visited the site and submitted another detailed report with certain specific recommendations to the State Government. The recommendations are quoted here, which reads as follows:

1. Relocation of the affected families to a safer place.
2. Measurement of the land (ROW) is to be carried out for construction of the protection walls.
3. Gravity retaining wall/toe wall should be provided if sufficient slope is available for earth cutting (1:1). If required, slope is not available then RCC walls should be constructed.
4. During execution, if landslide is occurred, other approach of stabilization i.e. step by step retaining wall may be considered with appropriate investigation and execution.
5. NHIDCL should also consider for providing necessary compensation and assistance to the affected families.
6. NHIDCL should also consider for construction of alternate approach road for the village as the main approach road is very steep and dangerous.
7. Immediate appropriate measures should be taken for preventing water percolation.
8. To find the extent of crack, geological mapping should be conducted.
9. Proper centralized drainage system along with minor drainage for every household of the village should be constructed.
10. Quality of construction materials along with appropriate monitoring and execution should be ensured.
11. The precautionary measures should not be limited to Tlakshi village but also extended to the new road constructions by NHIDCL.
12. Reference may be taken from GSI landslide susceptibility maps for composite vulnerability assessment of the slope. Moreover, all hazard

assessment including seismic vulnerability study, building assessment etc. should be taken immediately.

13. Tlakshi SB School should be dismantled and alternative construction should be done immediately. Land identification and reconstruction of new building should be taken up by TTAADC.
14. Regular monitoring of the landslide/surface cracks/subsidence should be done with prospering recording on daily basis.
15. Alternate channel of communication may be commissioned (HAM radio etc.).

Under another memo, dated 17/08/2023, the state government constituted expert team which revisited the site and submitted report on 19/08/2023 with following recommendations:

1. As an immediate measure, NHIDCL to cover the exposed areas with appropriate geo-members and other high-end products.
2. Opening of an alternate approach road to Tlakshi village should be taken up immediately.
3. As per the view of the Prof. Debasih Roy, Professor and Geo-Technical Expert, IIT-Kharagpur, for taking any mitigation and preventive measures, necessary study is required which may take about a month and after that more one and half month is required for solution to address the issue. Prof. Roy also informed that the deadline for implementation of the preventive and mitigation measure may be the next monsoon season if all procedure of NHIDCL goes well.
4. Immediate compensation to the affected families by NHIDCL, in this regard NHIDCL to take necessary steps for rehabilitation of the affected families.
5. NHIDCL to submit the immediate report on the actions to be taken up with specific timeline.
6. Necessary short and medium remedial measures should be implemented immediately.

7. *NHIDCL officials working in the village should be compassionate to the affected villagers and share regular updates with them on preventive and mitigation actions.*

As it appears the Principal Secretary, Revenue Department, Govt. of Tripura vide letter, dated 15/02/2024 has written a letter to the Managing Director, NHIDCL Corporate Office to take step in the interest of the affected people of the community in that area, but it is reported in the newspaper that no step has been taken as yet.

Addl. Secretary to the Govt. of Tripura in the Revenue Deptt. wrote another letter dated 21/06/2024 to the Managing Director, NHIDCL to take measures to protect the area and compensate the affected people to the locality. It is reported in the newspaper that no step has been taken as yet by the NHIDCL.

The indigenous people of the state has been affected because of the alleged construction without taking care of the impact and since the NHIDCL authority has not responded to the situation even after information given by the state government, we consider it fit case to issue notices to the NHIDCL authority as to why they shall not be directed to pay adequate compensation to the affected people of the locality.

Therefore, issue notice to the Managing Director, NHIDCL, Pandit Nehru Complex, Gorkhabasti, Agartala, West Tripura, PIN-799006, to submit written response in respect of the news items as to why they should not be directed to pay adequate compensation to the affected people for not taking due care and step to protect the villages through which NH 44-A has been constructed, i.e. Tlakshi and Hmunpui village of Jampui Hills, North Tripura District.

Notices may be issued along with the paper cuttings of the dates 25/06/2024 & 02/07/2024.

Copy of the reports by the expert committee submitted time to time may also be sent along with the notices.

Notices may also be given to the Secretary, Revenue Department, Govt. of Tripura to submit a response in writing before the next date.

Notice may be issued along with the copy of the newspaper reports and the expert committee reports.

List it after 6(six) weeks.

Fix on 20/08/2024.

2. Pursuant to the aforesaid order, notices were issued and accordingly on behalf of the Revenue Department of the Government of Tripura, Dy. Secretary Mr. C.K. Molsom of the Revenue Department under a letter dated 02/08/2024 has sent a copy of action taken by the State Government, which reads as follows:

"A) Action taken by the State Government:

1. *The Sub-Divisional Magistrate, Kanchanpur received the information regarding cracks on the blacktop road and ground near the household buildings in Tlakshi Village, Vanghmun TK on 23d July, 2023. Upon receiving the information, a team led by the SDM, Kanchanpur visited the location.*
2. *On 24th July, 2023, as per instruction of the SDM, Kanchanpur, a joint Visit was conducted by the Executive Engineer, Rural Development, Kanchanpur Division and Block Development Officer, Jampui Hill RD block and other members. The Executive Engineer subsequently submitted a report of the visit to the SDM, Kanchanpur.*
3. *On 25th July, 2023, the SDM, Kanchanpur reported the incident and submitted all field visit reports to the District Magistrate & Collector, North Tripura.*
4. *The DM & Collector, North Tripura then informed the Principal Secretary, Revenue Department on 25th July, 2023 and also submitted the joint field visit reports, and requested to send an expert team to visit the area in order to take necessary preventive action.*

5. Upon receiving the request, observing the report and understanding the gravity of the situation, the State Government constituted an expert team comprising experts from various sectors including Public Works Department (R & B), Geological Survey of India (GS), Tripura Space Application Centre (TSAC), National Institute of Technology-Agartala, ONGC, National Institute of Disaster Management (NIDM) & Revenue Department on 26th July, 2023.

6. The Expert Team visited Tlakshi Village on 28th July, 2023 and submitted joint visit report on 31st July, 2023.

7. Following the instruction of the Principal Secretary, Revenue Department, the expert team again visited the location on 6th August, 2023 to reassess the situation and submitted their report on 7th August, 2023.

8. On 8th August, 2023, the visit reports of 28th July, & 6th August were forwarded to the Secretary, PWD (R & B), Government of Tripura for necessary action.

9. On 19th August, 2023, a joint visit was conducted by the experts and officials of NHIDCL and the expert team of State Government. NHIDCL invited Prof. Debasis Roy, Professor and Geo-Technical Expert, IIT-Kharagpur for his expert opinion. After the visit, some recommendations were made to NHIDCL to address the issue, which are detailed in the report.

10. After that visit and despite several persuasions from the DM & Collector, concrete actions are awaited from the NHIDCL as per the recommendations of the expert committee and demands of affected villagers of Tlakshi Village.

11. The Principal Secretary, Revenue wrote a DO letter dated 15th February, 2024 to the Managing Director, NHIDCL for his intervention to ensure taking necessary measures on priority”.

3. One Miss Tiyasa Lodh (YLP) appeared on behalf of NHIDCL and sought 6(six) weeks time to submit written objection and to that effect presented a petition, submitted by the Deputy Solicitor General. It was also submitted by Miss Lodh that the local authority of NHIDCL is the Executive Director, NHIDCL, UD Bhaban, Agartala and accordingly she made a request to make all communications to that authority which was accepted and subsequently all communications were made to that authority.

4. On 07/10/24 Colonel V.S. Meel (Retd.) General Manager (Projects), NHIDCL, PMU Dharmanagar has submitted a detailed written objection along with twelve items of documents annexed.

It is inter alia stated in the written objection of NHIDCL that NHIDCL entrusted the construction works of NH44-A to EPC Contractor namely M/s Rajendra Singh Bhamo Infra Private Limited and they have executed the work. They have denied the allegation of criminal negligence, apathy and arrogance etc. and also denied the allegation that NHIDCL has put the entire Tlakshi Village of Jampui Hills in disaster.

It is categorically stated that NH44-A passes through Jampui Hills range and Tlakshi village is located at Jampui Hills through which NH 44-A has been constructed. The affected area is from 65.68 km to 65.950

km, i.e. an area of less than 1 km which was affected by land slide and that was reported in the newspaper. It is also stated that professionals were employed and the entire work was supervised and monitored by NHIDCL Engineers in terms of the advice of a consultant appointed by the NHIDCL namely Arki-techno Consultants India Pvt. Ltd. It is stated that the site was handed over in March - 2023 and in April-2023 work was executed through that stretch. The work was completed on 06/07/2023 and thereafter, all tests were completed as per the directions of the engineers entrusted to execute the work. There was heavy rainfall in the month of July-2023 and because of such heavy rainfall on 23/07/2023, there was land slide in Tlakshi village. NHIDCL was ready to take up the work at once to clear up the debris which has fallen because of land slide over the road, but because of the resistance of the local people, that could not be done. The right of way continued and vehicles were plying through the road. After the incident a joint visit was conducted by the administration along with the engineers of NHIDCL, but the officials of the administration submitted a report on visual inspection. A second visit was also made and again a report was submitted on simple visual inspection by the State Government officials. NHIDCL therefore, appointed IIT Kharagpur to examine the area and the hill slide portion and accordingly, a detailed inspection was conducted by one Debasish Roy, Professor, Department of Civil Engineering, IIT Khargapur and that inspection was conducted in presence of the representatives of all

concerned and a copy of that report is annexed with written objection, which is marked as **Annexure 11**. The report is in details about the geophysical surface and the strength of the earth of the hill. The concluding part of the report reads thus:

“SUGGESTED IMPLEMENTATION SEQUENCE AND MATERIAL SPECIFICATIONS

Sufficient resources should be mobilized for slope reconfiguration such that construction work over the entire between km 65.79 and km 65.89 is completed within a single dry season. The construction should proceed from bottom with the excavation of short segments of 5-m wide strip at the toe of the slope followed by installation of the lowermost grout curtain. Grout holes are to be laid out in three parallel rows along the highway alignment at 1.5 m horizontal spacing in square pattern (in plan), percussion drilled in a suitable sequence to 10-m depth with minimal use of bentonite along the interior edge of excavation. Hole planned for drilled consecutively or concurrently sequentially should be at sufficient distance apart from each other. Otherwise pressurization may not be possible during grout injection following drilling. The holes should be 100-mm nominal diameter. Immediately after a hole is drilled, cement bentonite grout with (1:0.8:0.2 nominal water-cement-bentonite ratio in terms of weight) should be injected preferably in 2-m stages beginning from the bottom of the hole. For grouting each meter of a single hole, about 60 kg cement and 15 lb bentonite are likely to be consumed. Rupees 1000 per meter could be budgeted in addition for drilling of grout holes and other consumables such including grout pipes and nozzles. Once grouting is complete for the deeper stage within a hole, the 2-m thickness immediately above should be taken up for grouting. In each state, the injection should continue under gradually increasing pressure until the pressure reaches 200 kPa or 10% of the volume of soil being treated is consumed. If grout take increases (or grout

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pressure is lost) suddenly, grouting should be discontinued before attempting resumption with a thicker grout mix. After installation of the bottom-most grout curtain earth fill should be placed layer wise and compacted such that the entire fill is densified to 98% Standard Proctor Maximum Dry Density (SPMDD). Excavated earth could be used for this purpose if they are well-graded, of low plasticity (with plasticity index of less than or equal to 7%), organic-free and are slightly dispersive or non-dispersive meeting NDI. ND2, ND3 or ND4 criteria as per Method A and SD or ND criteria as per Method B of ASTM D4647-- 13 (ASTM 2020)4.

After the base is grouted and the soil underneath is compacted to 98% Standard Proctor Maximum Dry Density (SPMDD), a layer of aggregate-filled gabion baskets, nominally measuring 1 m x 1 m x 1.5m, should be placed along the exterior face of the slope adjacent to pavement edge with their longer dimension oriented transversely to the highway alignment as shown in Figure 4. Gabions baskets with 80 mm by 100 mm mesh size manufactured from Zn/ZnAl alloy poly coated wire of 3.9 mm nominal diameter meeting the requirements for use in high degradation environments of IRC (2018) should be used. The baskets should be filled with non-friable, non-flaky aggregates, of insoluble. Chemically inert rock with little potential to generate acidic or alkaline leachates. Aggregates should be fines free and nominally between 150 mm and 200 mm in size. The gabion baskets should be packed Such that the unit weight of the completed gabion wall is 19 kN/m' or greater. The intervening space between the gabion baskets and the dressed face of the original slope should then be filled layer wise with excavated earth and compacted to 98% SPMDD. Another layer of gabion basket should then be placed after completion of fill placement and compaction up to 1 m height. This sequence continues until slope is reconstructed up to the first bench nominally at 6 m height above the base of the slope followed by the installation of the grout curtain along the interior of this bench.

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Reconstruction should proceed in this manner until reaching the uppermost bench. It should also be noted that bench elevations indicated in Figure 3 should be deemed tentative as they may need adjustments depending on topography and crest and pavement elevations. Partly filled gabion baskets may also be needed at some places due to the same reasons.

Depending on the height of fill in the uppermost bench, a network of perforated PVC pipes may have to be installed as shown in Figure 3 to intercept seepage at the top of the slope. The pipes should be laid with sufficient longitudinal slope to ensure gravity drainage of seepage away from its point of interception to discharge points at either end of reconstructed slope. Also backfill should be placed around the pipes already laid and compacted without disturbing or plugging the pipes.

If excavated material is unsuitable or insufficient, well-graded, low plastic (with plasticity index of less than or equal to 7%), organic-free, slightly dispersive or non-dispersive soils meeting NDI, ND2, ND3 or ND4 criteria as per Method A and SD or ND criteria as per Method B of ASTM D4647 - 13 (ASTM 2020) should be used as backfill. Seeding and mulching should also be considered for quick establishment of vegetation on benches and slope face.

Regardless of the methodology suggested above, it should be noted that grouting is a specialized operation. A crew with experience in installation of grout curtains should therefore only be deployed for grouting work. For its success, the grout curtains should be installed over a dry season, when subsurface seepage is likely to remain tenuous. If rains set in within a few weeks of grouting grout materials may not resist being washed out by seepage. If such a situation is anticipated, alternative grout compositions, based, for instance, on polyurethane or other specialized chemicals may have to be used to ensure expected functionality of grout curtains. Such contingencies may have to be worked out in consultation with the specialized agency employed for grouting work.

CLOSURE

The recommendations of this letter report are based on inputs explicitly spelt out in this report. If any additional information of relevance becomes available during implementation of the recommended counter measures or earlier, they should be brought to the notice of IIT Kharagpur to allow them to examine their potential implications. It should be noted that the recommendations outlined above are specific to the location considered in this work. Their use at other locations may not be technically appropriate. IIT Kharagpur would also like to thank NHIDCL for sharing the information and organizing my site visit."

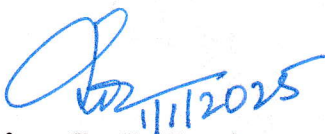
5. All the orders passed by the Commission was placed/uploaded in the official portal/website of the Commission, inviting the affected people to take note of it and appear before the Commission, if they so desire. None of the alleged affected person appeared before the Commission to ventilate their grievances as to how they have been affected because of the construction of the road by NHIDCL.

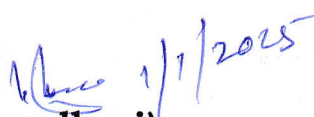
6. On behalf of the Revenue Department also, no further step has been taken except the communication made by the Deputy Secretary which has been reproduced herein before.

7. Construction of roads, especially National Highways are in public interests at large. For construction of such roads or highways if any citizen is affected, adequate compensation in terms of law has to be paid to the person likely to be affected. The newspaper report shows lots of

people were affected, graveyards were exposed, but nobody appeared before the Commission to speak of their grievances, if any. It is stated by NHIDCL that Tlakshi village has no drainage/sewage system and the water used by the villagers enter inside the hill slopes and as a result whenever there was heavy rainfall, huge landslides occurred from the hill slope. Whether retaining wall was properly constructed or not has to be inquired and decided by the expert body. So far it appears that IIT Kharagpur, which is no doubt an expert institution has conducted an in depth investigation and certain recommendations have been made which is required to be followed by all concerned, including NHIDCL. Since no direct indictment in the action taken by NHIDCL has been made and since no other evidence is available to give any other recommendation, Commission has no other alternative but to close the inquiry.

However, it is observed by the Commission that any person whoever feels aggrieved in any manner will be at liberty to approach the appropriate legal forum seeking redressal.


(Justice S. C. Das)
Chairperson


(U. Choudhuri)
Member