



**SIKKIM STATE DISASTER MANAGEMENT AUTHORITY (SSDMA)
LAND REVENUE AND DISASTER MANAGEMENT DEPARTMENT
GOVERNMENT OF SIKKIM**

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Ref No: 441/SSDMA/LR&DMD/GoS/2023

Date: 19.10.2023

To

The Joint Secretary
D.M.Division
Ministry of Home Affairs
Govt. of India.

Sub: Memorandum of damages due to Monsoon /Flashflood of Sikkim 2023 – reg.

Sir,

I am directed to inform you that the State of Sikkim experienced disaster during the Monsoon of 2023 with a flash flood occurring in the month of June 2023 as well as in 3rd – 4th October 2023.

In view of seeking additional financial Assistance from the Govt. of India, a Memorandum has been prepared for immediate measures in accordance to the norms of assistance as provided by Ministry of Home Affairs. This Memorandum is hereby submitted for your review and intervention towards release of grant to the State of Sikkim at the earliest, providing relief and reposing faith upon the Govt. of India during this period of distress.

Thanking you.



Yours Sincerely,

Shri Prabhakar Rai

Special Secretary -cum-Director

SSDMA, Land Revenue & Disaster Management Department

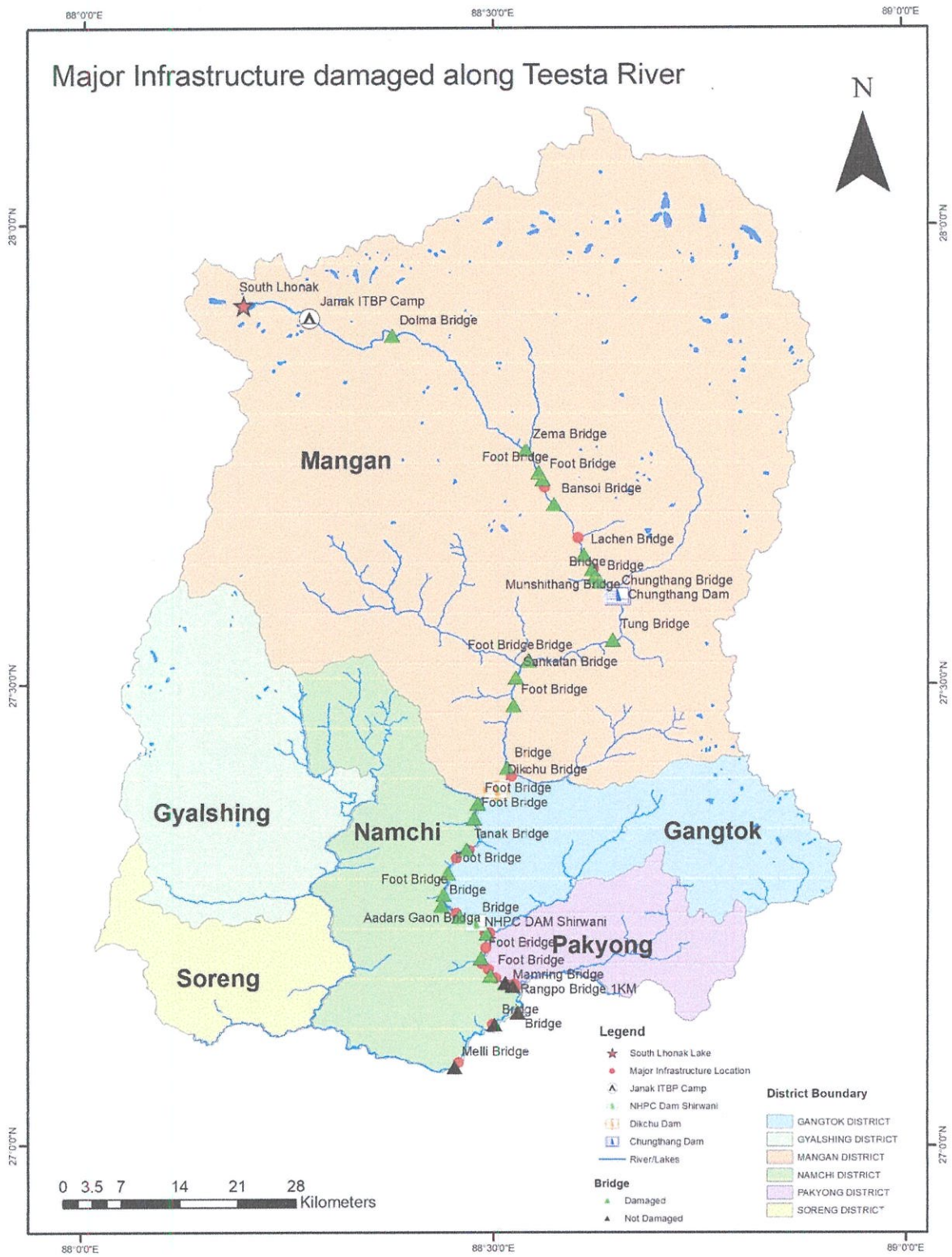
Govt. of Sikkim.

Copy to:

Shri Anant Kishore Saran, JS (FFR).

Team leader of IMCT.

Major Infrastructure damaged along Teesta River



0 3.5 7 14 21 28 Kilometers

- Legend**
- ★ South Lhonak Lake
 - Major Infrastructure Location
 - ▲ Janak ITBP Camp
 - ▲ NHPD Dam Shirwani
 - ▲ Dikchu Dam
 - ▲ Chungthang Dam
 - River/Lakes
- Bridge**
- ▲ Damaged
 - ▲ Not Damaged
- District Boundary**
- GANGTOK DISTRICT
 - GYALSHING DISTRICT
 - MANGAN DISTRICT
 - NAMCHI DISTRICT
 - PAKYONG DISTRICT
 - SORENG DISTRICT

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CERTIFICATE OF AUTHENTICITY

This Memorandum has been prepared as per the data of loss and damages incurred by the Government of Sikkim due to incessant rains and flashfloods of 3rd - 4th October 2023. The sector-wise damage and requirement of funds has been furnished by the State Departments and District Administration. The declaration provided in the Interim-memorandum has been found complete in all respects and supported by information/data in clear terms as indicated in the guidelines.

Therefore, considering its authenticity this interim report is submitted to the Government of India for seeking additional financial assistance. Photographs related to the damages are enclosed for further reference, please.


(Anil Raj Rai) IAS
Relief-Commissioner cum Secretary
Land revenue & Disaster Management Department
Govt. of Sikkim

STATE PROFILE

Sikkim is the second smallest state of the Indian Union and located in the northeastern part of the country in the eastern Himalaya. Sikkim is bordered by the Tibet Autonomous Region of China to the north and northeast, by Bhutan to the southeast, by the Indian state of West Bengal to the south, and by Nepal to the west. It has a total area of 7,096 sq. Kms with a population of 6,10,577 as per the 2011 Census which makes it the least populous state in the country. The state is also known for its rich biodiversity including its Alpine and Sub Tropical Climatic zones. Mount Kanchenjunga, the highest peak of India and third highest peak in the world is located in the State and is worshipped as its guardian deity. Nestled in the Himalayan mountains, the state is characterized by mountainous terrain with fragile ecology and elevations ranging from 280 mts to 8586 mts. The State is endowed with rich natural resources and biodiversity but is also ecologically sensitive and prone to natural hazards including earthquakes as it lies in seismic zone IV. The rock types consist of phyllites and schists which is highly susceptible to weathering and erosion. Heavy rainfall and extensive soil erosion with loss of soil nutrients through leaching results in frequent landslides during the monsoons. Landslides are also triggered due to the frequent seismic activity in the state leading to extensive disruption of connectivity in the already landlocked state and damages to property. The geomorphological setting of Sikkim in particular is complex. The complexity is produced by the continuous tectonic activity which began some 40 billion years ago. The existing thrust fault-lines, intense folding in rock environment and glacial outburst produce their own effects. Landscape and deposits of earlier glacial events were reshaped by later glacial advances and retreat. Similarly glacial sequences were also produced due to glacial advances and retreat over the entire region. The sudden and catastrophic weather conditions of the State result in frequent flashfloods and land subsidence phenomena have produced different valley shapes and sizes along with the ever-looming threat of glacial lake outburst flood in the region. Competent and massive high grade metamorphic rocks north of MCT show very rugged high mountain terrain. Except structural scraps and cliffs, the steep upper slopes are dominated by more rapid form of alpine denudation, especially avalanches and rock and debris fall. Extensive glacial deposits and glacial lakes within the drainage basins and catchment areas of Lachen and Lachung rivers pose constant threat of high hazards to the areas at lower levels of the region.

The state of Sikkim comprises of 06 Districts, 16 Sub-divisions, 453 Revenue Blocks and 199 Gram Panchayat Units. The Latitude of the state is approx. 27 deg North with longitude of 88 deg East and has the population density of 76 per sq km. Sikkim experiences moderate to heavy rainfall throughout the year with average rainfall recorded at 1000 mm (as per IMD/Gangtok) during the monsoons. Apart from landslides caused due to earthquake tremors and heavy rainfall, other hazards identified resulting to disaster are hailstorm, lightning, cyclonic windstorm, forest fire and vehicular accidents.

REPORT ON DAMAGES DUE TO FLASHFLOOD

The state experienced moderate to heavy rainfall during the monsoon of 2023. The rainfall being torrential and area specific caused numerous landslides/flashfloods, major land subsidence affecting the people and their livelihood at large. The disruption of road network in the State due to natural calamity caused major hardships to the people. On the intervening night of 3rd Oct 2023 due to spillover of South Lhonak lake, sudden surge of water from the South Lhonak Lake resulted to washing away of villages, houses, army installations, bridges, roads, police stations, power station dam etc. The flashflood on its way downstream washed away 33 bridges breaching the Sikkim Urja Hydro Project dam and washing away the ammunition storage at Munshithang. Further down Dikchu, Singtam town, Golitar and IBM area of Rangpo was filled by slush and debris with the army unit based at Bardang affected by the flashflood resulting to heavy losses of life and properties. The impact of the flood water was immense resulting to total scouring of the riverside along-with heavy siltation in the riverside with the effect observed till Bengal. With the flashflood the state has incurred heavy losses beyond the coping capacity of the state government. The parts of Chungthang and beyond towards the Lachen axis were completely cut off from the rest of the state and the inclement weather conditions hindered the relief and rescue operations.

ACTION TAKEN BY THE LAND REVENUE & DISASTER MANAGEMENT DEPARTMENT.

As soon as the message from the ITBP located at Janak to the Sub Divisional Magistrate, Chungthang regarding the rise in river water near the camp was received, immediate evacuation of Chungthang town was carried out with alert sent to the other districts as well as to the Sikkim Urja Power Project and other power projects downstream. The District Collectors immediately activated evacuation of all low-lying areas through sounding of sirens and miking by police vehicles. The SDRF/Police and Fire Services jumped into action towards the safety of the people. Relief camps were established immediately with the evacuated people given shelter. On the 4th morning search and rescue operation started with the involvement of state machinery, Army and individuals along-with the local agencies and social organizations. The SEOC located at the Land Revenue & Disaster Management Department became active from the early morning of 4th contacting officials in the districts to understand the magnitude of the disaster and after assessing all information, with the approval of the Chairman SEC, the incident was declared as a National Disaster. MHA/NDMA were also intimated about the disaster and assistance for rescue operations were sought immediately.

GEOGRAPHICAL AREA OF SIKKIM

List of districts in Sikkim: As of 2023 there are a total of Six Districts in Sikkim. Earlier it had 4 Districts with two new districts created in 2021. The names of the districts and break-up of the total area of the state are as follows:

| SL. NO | Name of District | Area (In Sq KMs) |
|--------|------------------|------------------|
| 1 | Mangan | 4226 |
| 2 | Gangtok | 550 |
| 3 | Pakyong | 404 |
| 4 | Namchi | 750 |
| 5. | Soreng | 293 |
| 6. | Gyalshing | 873 |
| | Total | 7096 |

Appendix - II

1. Population & Number of Houses: - The total population of the State is 6.10 Lakhs and total number of houses is 129006.

| Sl. No | District | No of villages | Population | | | Distribution of population | | Sex Ratio | Population on Density | Literacy Rate (In %) | Houses | | | |
|--------|-----------|----------------|------------|--------|--------|----------------------------|--------|-----------|-----------------------|----------------------|--------|--------|------------|--------|
| | | | Male | Female | Total | Urban | Rural | | | | Pucca | Kutcha | No of Huts | Total |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 14 | 15 |
| 1 | Gangtok | 209 | 132637 | 114554 | 247191 | 122487 | 124704 | 912 | 295 | 89.33 | 38070 | 2980 | 208 | 41258 |
| 2 | Soreng | 51 | 33061 | 31699 | 64760 | 1235 | 63525 | 959 | 196 | 69.37 | 12360 | 684 | 689 | 13733 |
| 3 | Pakyong | 29 | 18795 | 17597 | 36392 | 0 | 36392 | 936 | 180 | 77.81 | 19009 | 916 | 384 | 20309 |
| 4 | Gyalshing | 364 | 37177 | 34498 | 71675 | 4013 | 67662 | 942 | 120 | 70.05 | 13210 | 528 | 552 | 14290 |
| 5 | Mangan | 75 | 24730 | 18979 | 43709 | 4644 | 39065 | 767 | 10 | 69.39 | 8610 | 123 | 140 | 8873 |
| 6 | Namchi | 312 | 76670 | 70180 | 146850 | 21199 | 125651 | 915 | 196 | 73.64 | 28912 | 1290 | 341 | 30543 |
| | Total | 1040 | 323070 | 287507 | 610577 | 153578 | 456999 | 5431 | 997 | 449.59 | 120171 | 6521 | 2314 | 129006 |

2. Agriculture & Roads Sector etc.:- District wise profile of the state in respect of Agriculture, Road, Irrigation, Primary Health Centres, Primary School, and Panchayat Ghar.

| Sl No | District | Agriculture Sector | | | | | | Roads (in Km) | | | | No of PHSC | No of PS | No. of Panchayat Ghar | No of Drinking Water Scheme | No of Irrigation Scheme |
|-------|-----------|-------------------------|---------------------|----------|--------------------------------------|--------|-----------------|---------------|-------------|---------|-----|------------|----------|-----------------------|-----------------------------|-------------------------|
| | | Cultivated Area (in Ha) | Total No of Farmers | % of SMF | No of Landless Agriculture Labourers | NH | State PWD Roads | Rural Road | Urban Roads | Total | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 15 | 14 | 15 | 16 | |
| 1 | Gangtok | 12283 | 13504 | 46 | 1574 | 185.11 | 499.38 | 284.75 | 39.80 | 1009.04 | 23 | 156 | 28 | 853 | 1821 | |
| 2 | Gyalshing | 17391 | 17227 | 60 | 2040 | 28.06 | 933.51 | 303.32 | 9.07 | 1273.96 | 22 | 67 | 28 | 713 | 601 | |
| 3 | Mangan | 11129 | 4896 | 80 | 366 | 93.67 | 206.32 | 190.29 | 2 | 492.28 | 24 | 43 | 25 | 695 | 620 | |
| 4 | Namchi | 20010 | 20120 | 80 | 1890 | 122.62 | 918.54 | 543.25 | 36.40 | 1620.81 | 46 | 115 | 48 | 1276 | 708 | |
| 5 | Soreng | 5859 | 5804 | 20 | 1949 | 18.54 | 355.73 | 302.26 | 4.55 | 681.08 | 27 | 54 | 33 | 731 | 11 | |
| 6 | Pakyong | 9079 | 9982 | 34 | 1722 | 60.00 | 263.75 | 318.06 | 5 | 646.81 | 33 | 58 | 23 | 775 | 19 | |
| | | 75751 | 71533 | 320 | 9541 | 508 | 3177.23 | 1941.93 | 96.82 | 5723.98 | 175 | 493 | 185 | 5043 | 3780 | |

Appendix -IV

3. Rainfall data: District-wise rainfall data including actual rainfall, average rainfall for last three years in corresponding period is given as:

| SL.No | Name of Affected Districts | Rainfall (in MM) During (1 st April-07 th October 2023) | | | Rain fall During Corresponding period in the last year. | | |
|-------|----------------------------|---|--------|-----|---|--------|-----|
| | | A | N | D | A | N | D |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 1 | Gangtok | 2335.8 | 2860.6 | -18 | 1987.9 | 2012.1 | -01 |
| 2 | Mangan | 2312.0 | 1945.7 | 19 | 1835.0 | 1320.9 | 39 |
| 3 | Pakyong | 1934.3 | 1866.6 | 04 | 1113.1 | 1238.4 | -10 |
| 4 | Namchi | 2607.2 | 1923.9 | 36 | 899.5 | 1245.7 | -28 |
| 5 | Gyalshing | 1845.4 | 2031.0 | -09 | 1067.8 | 1311.5 | -19 |
| 6 | Soreng | 2529.0 | 2031.0 | 25 | 867.5* | 1311.5 | -34 |

| Sl No. | Name of Affected Districts | Rainfall During Calamity (in MM) (1st April-31st July 2021) | | | Rainfall During Corresponding period for the following year (2020) | | |
|--------|----------------------------|---|--------|-----|--|--------|-----|
| | | A | N | D | A | N | D |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 1 | East | 1524.5 | 1526.6 | 00 | 1530.3 | 1526.6 | 00 |
| 2 | North | 1881.2 | 1328.1 | 42 | 2531.3 | 1328.1 | 91 |
| 3 | South | 1098.2 | 1648.9 | -33 | 1821.0 | 1648.9 | 10 |
| 4 | West | 1260.0 | 1155.0 | 09 | 912.1 | 1155.0 | -21 |

NB: Rainfall data has been provided for four districts i.e., East, West, North and South prior to the year 2021, as the Government of Sikkim has reorganized the district boundaries and formally declared 6 (six) districts for the State, through a gazette notification coming into force from December 2021.

4. District wise Rainfall (mm) Statistics 2023- Sikkim

| Month | Gangtok | | | Mangan | | | Pakyong | | | Namchi | | | Gyalshing | | | Soreng | | |
|-----------|---------|-------|-----|--------|-------|-----|---------|-------|------|--------|-------|------|-----------|-------|------|--------|-------|------|
| | A | N | D | A | N | D | A | N | D | A | N | D | A | N | D | A | N | D |
| January | 000.7 | 023.5 | -97 | 006.1 | 043.2 | -86 | 000.0 | 011.0 | -100 | 000.0 | 012.3 | -100 | 000.0 | 016.9 | -100 | 000.0 | 016.9 | -100 |
| February | 049.3 | 047.8 | 03 | 143.2 | 082.3 | 74 | 012.9 | 021.8 | -41 | 035.9 | 021.2 | 69 | 021.6 | 023.9 | -10 | 026.0 | 023.9 | 09 |
| March | 203.9 | 118.1 | 73 | 235.4 | 158.0 | 49 | 134.7 | 043.1 | 213 | 111.6 | 053.0 | 111 | 095.8 | 050.1 | 91 | 076.0 | 050.1 | 52 |
| April | 317.0 | 318.0 | 00 | 244.4 | 192.1 | 27 | 155.0 | 138.5 | 12 | 107.0 | 129.8 | -18 | 089.6 | 124.0 | -28 | 061.5 | 124.0 | -50 |
| May | 316.6 | 479.2 | -34 | 321.7 | 285.9 | 13 | 155.8 | 222.8 | -30 | 177.0 | 221.8 | -20 | 118.3 | 211.2 | -44 | 143.0 | 211.2 | -32 |
| June | 488.7 | 597.7 | -18 | 501.4 | 424.8 | 18 | 445.2 | 379.8 | 17 | 502.6 | 382.3 | 31 | 490.1 | 395.1 | 24 | 612.0 | 395.1 | 55 |
| July | 493.5 | 617.2 | -20 | 530.9 | 418.1 | 27 | 346.7 | 497.3 | -30 | 621.1 | 511.8 | 21 | 425.9 | 581.2 | -27 | 567.0 | 581.2 | -02 |
| August | 409.2 | 474.8 | -14 | 422.4 | 329.1 | 28 | 447.3 | 363.9 | 23 | 716.0 | 365.9 | 96 | 513.5 | 404.2 | 27 | 774.0 | 404.2 | 91 |
| September | 207.9 | 318.1 | -35 | 172.8 | 241.6 | -28 | 220.9 | 234.0 | -06 | 258.7 | 286.2 | -10 | 132.0 | 264.0 | -50 | 223.0 | 264.0 | -16 |
| October* | 102.9 | 055.6 | 85 | 118.4 | 054.1 | 119 | 163.4 | 030.3 | 439 | 224.8 | 026.1 | 761 | 076.1 | 051.3 | 48 | 148.5 | 051.3 | 189 |

*October data is for upto 07.10.2023

| 5. Details of Human Lives Lost/Death during 2023 due to Natural Calamity | | | | | | |
|--|---------------------------------|---------------|------------|--|--|--|
| Sl. No. | Name of Calamity | 2023 | Date | District | | |
| 01 | Flood | 42 | 17/06/2023 | Casualty caused due to occurrence of flood under Gyalshing District. | | |
| | | | 19/06/2023 | Casualty caused due to occurrence of flood under Namchi District. | | |
| | | | 03/10/2003 | Casualty due to Flashflood along the Teesta Basin affecting Mangan, Gangtok, Namchi and Pakyong Districts. | | |
| 02 | Landslide | 06 | 10/04/2023 | Casualty caused due to falling-boulder under Gangtok District. | | |
| | | | 16/06/2023 | Casualty caused due to occurrence of landslide under Gyalshing District. | | |
| | | | 12/07/2023 | Casualty caused due to occurrence of landslide under Mangan District. | | |
| | | | 28/08/2023 | Casualty caused due to occurrence of landslide under Gyalshing District. | | |
| 03 | Lightening | Nil | | | | |
| 04 | Earthquake | Nil | | | | |
| 05 | Cloud Burst | Nil | | | | |
| 06 | Windstorm | 02 | 05/09/2023 | Casualty caused due to occurrence of windstorm under Namchi District. | | |
| 07 | Avalanche | 07 | 04/04/2023 | Casualty of 7 Nos of Tourists caused due to occurrence of avalanches along the road to Tsongu Lake under Gangtok District. | | |
| 08 | Strong-wind with Heavy rainfall | 01 | 01/06/2023 | Casualty caused due to occurrence of windstorm under Mangan District. | | |
| | TOTAL | 58 Nos | | | | |

EXTENT OF DAMAGE DUE TO NATURAL CALAMITIES

Extensive damages of public, private and government properties are reported and funding of assistance was made towards providing immediate relief by the Sikkim State Disaster Management Authority/SSDMA through the District Disaster Management Authorities/DDMA's.

GRATUITOUS RELIEF

(a) Ex-Gratia payment to the families of deceased persons:

The monsoon of 2023 so far has claimed 58 lives in the State. As search operations are still on for the missing persons, the number of casualties may rise after confirmation of the same, therefore subsequent sanction of ex-gratia shall be obtained accordingly later to the kith and kin of the deceased (presumed dead as 76 are still reported to be missing). The Ex-Gratia payment to families of deceased persons is provided relief @ 4.00 Lakh per deceased person under SDRF & NDRF norms of assistance. The financial requirement under this sector amounts to **Rs 232.00 lakhs** only. (58 x Rs 4.00 Lakh)

(b) Ex Gratia payment for loss of limbs/eye: Nil

(c) Gratuitous relief payment for grievous injury requiring hospitalization.

A total of 48 persons are reported to be grievously injured requiring hospitalization. Some areas which have remained isolated in the Mangan District since day one as its still inaccessible may project injuries in the days to come, however based on the available reports a sum of Rs 7.68 Lakhs is projected for approval.
(48 x 16000) Rs 7.68 Lakh.

(d) Clothing and Utensils/Household goods for families whose houses have been washed away/fully damaged due to natural calamity:

Due to the rainfall and flashflood, the habituated areas located along the Teesta River were all inundated and houses washed away completely, as such a total of 11000 persons have been affected by the flashflood, therefore a sum of Rs 550.00 Lakhs (11000 x 5000) is proposed for sanction under this sector. Almost a total of 1206.1 km stretch of Teesta basin was affected by the flashflood washing away

all the houses as well as endangering the houses located above in the hills which has been affected by landslides induced by the flood. A total of almost 98 habitated locations have been totally inundated and covered by silt measuring upto the height of 15 -20ft. Livelihood of the people who were engaged in farming, poultry and animal husbandry as well as small shops, industrial units, employees in various industries, govt. employees are badly hit by the flashflood. From the day of the disaster, these affected people have been dependent upon the food, shelter of relief camps as their properties have been totally washed away by the flood water.

(d) Gratuitous relief for families whose livelihood is seriously affected due to natural calamity:

A total of 23000 families are being provided GR @ 350/- for thirty days (23000 x 350 x 30) amounting to Rs 2415.00 Lakhs.

1. Search & Rescue Operations:

a) Large frequency of S&R had to be initiated for disaster incidents due to natural calamity in the State. Search & Rescue were carried out by the Police/Army/ITBP/State Disaster Response Force with proper S&R response resources in the time of incident. The displaced families were evacuated to safer locations by the S&R Team. Search operation is still on to locate the missing persons beneath the debris and sediment along the river basin. The search operation along the river basin shall continue looking for the missing persons as such a sum total of Rs. 1000.00 Lakhs is proposed for sanction. Extensive search operation engaging all machinery of the state is on to locate the missing persons. Combing operations in the river banks stretching upto 900 kms is on and shall be continued till the mortal remains of the missing persons are located. Heavy equipment are also being engaged in removal of silt / debris trying to locate the covered ones if any, 76 odd people are still reported to be missing and the search operation continues.

2. Relief Measures:

The State having witnessed the extreme natural calamity due to which large Nos of HH have been evacuated and settled in relief camps managed by the State Government. The temporary accommodation has been provided with all

necessary provisions provided in the item of SDRF/NDRF which included proper drinking water supply, electricity and sanitation facility. Likewise large no of villages has been totally cut-off in Mangan district and with the road connectivity totally disconnected the villages beyond Chungthang and upper Dzongu shall act as relief shelters. Essential food items and other materials are being provided by the state government to these areas by Air. A sum of Rs. 2000.00 Lakhs is projected.

3. Clearance of affected areas.

Due to the heavy floods/landslides there has been large scale of work involving clearance of flood water and clearance of debris in public areas. The debris clearance in all areas is being carried out by the concerned agencies with involvement of men and machinery. The muck and sludge have an average height of 10 ft and removal of the muck is a long-drawn procedure restoring them to workable conditions. A sum total of Rs. 20060.00 Lakhs is requested for sanction.

The overall assumption of 252.24 hectares has been assessed from the areas that were accessible, however there are areas above stream which are still inaccessible and the civil administration is working tirelessly to reach the places to provide relief as well to assess the damages. Heavy siltation has occurred all along the Teesta River and in order to save the habitated areas nearby, this silt needs to be removed.

(A) AIR SORTIES: After the disaster, due to road network disrupted to the extreme North part of Mangan district, Air sorties had to be carried out to evacuate around 1800 tourists stranded in Lachen/Lachung from the tourist destinations. Labourers around 1500 have been evacuated and still on along with the locals who were sick/old and wanted to come to Gangtok. The helicopters of STDC/Army and Teesta Urja are being engaged for the rescue operation. A sum of Rs.800.00 Lakhs is projected.

(B) Agriculture input subsidy (where crop loss was 33% and above).

The damages to agriculture sector is being assessed by the officials of the concerned department. However as per the preliminary report a sum of Rs 770.00 Lakhs is required.

4. Animal Husbandry: Assistance to SMF & Landless Livestock Owners:

The occurrence of natural calamity also impacted the animal husbandry sector in the State. There are huge losses of Milching cows, Yaks, Pigs, Goats, Angora rabbits etc. The losses amount to Rs. 1852.00 Lakhs.

- (i) Provision of fodder/ feed including water supply and medicines:** -A sum of Rs. 61.48 Lakhs is projected as assistance sought for the supply of fodder.

5. Handicrafts/Handloom -assistance to Artisans.

Local artisans and handloom units have been severely affected by the monsoons and the flashflood along the Teesta Basin resulting to losses amounting to Rs 150.00 lakhs.

6. Housing.

A total of 5019 houses are reported damaged due to the unprecedented occurrence of flashflood in the State. It is reported that all the houses fall under pucca category as maximum houses have been washed away completely along-with the land. Due to the flashflood the people who were on rented premises for living as well as for running shops have also been affected severely qualifying them for relief. A sum of Rs 3012.60 Lakhs is requested for sanction.

(I) INFRASTRUCTURE.

(a) ROADS AND BRIDGES:

The unprecedented rains resulting to flashflood has caused extensive damage to the road and its infrastructure. Assessment of the damages by the Department is on the process as most part of the North district is still inaccessible. A sum of Rs 1000.00 lakhs is required for immediate restoration works.

(b) DRINKING WATER SUPPLY:

The flashflood/Landslide gravely affected the drinking water sources and the pipelines disrupting the adequate flow of potable water in the rural and urban areas of the state. Numerous water supply schemes have been damaged in the flash floods and landslides. Along with the drinking water supply the sewerage lines were also disrupted with three STP plants were submerged in the debris. In

view of immediate restoration of the infrastructures a sum total of Rs. 30000.00 Lakhs is required for immediate restoration of water supply.

As the STP plants being submerged within the debris, the use of washrooms has been creating a jam within the pipelines as well leakages of sewerage may result to health hazard. In this context elaborated fogging is being carried out. However, the STP lines need to be cleared immediately and made reusable for the public work on a war footing is on at the related sites.

(c) IRRIGATION:

The incessant rains triggered flashflood/landslides damaging numerous agricultural water channels and other irrigation system in the rural as well as in urban areas. The embankments along the Teesta River have been totally washed out exposing the villages which are remaining on the higher reaches. In view of protecting these highly vulnerable villages embankments are to be made immediately. A sum of Rs 5000.00 lakhs is required for the restoration of the irrigation canals. Due to the heavy sedimentation along the river belts and the habituated areas, the levels of the river has increased with the landmass becoming lower than the river so if no embankments are made to prevent the water from entering the low lying areas, floods would be a perennial feature.

(d) SCHOOLS

Land slips/landslides has caused severe damage to many educational institutions in the State resulting to losses estimated at Rs 1432.15 Lakhs. The ATTC building at Burdang was submerged upto a height of 20ft. with muck /Silt/Sludge entering the institute. The clearing of muck from the rooms and repairing may account of appropriate funding.

(e) POWER SECTOR:

The heavy rains and flashflood caused major damage to power sector. Temporary restoration works was taken up to restore power supply in the affected areas. The Sikkim Urja Power project dam located at Chungthang got breached due to the flashflood of 3rd -4th October 2023. Assessment of the damages is on however for the temporary power supply the estimated amount comes to the tune of Rs 5000.00 Lakhs.

(f) PRIMARY HEALTH CENTRES:

Several PHCs and PHSCs/Health Centers have been badly affected by the monsoon rains and the flashflood that followed. A sum of Rs 100.00 lakhs is projected for the immediate repair works.

(3) COMMUNITY ASSETS:

The monsoon rains and flashfloods severely damaged the community assets in the state incurring heavy losses. Detail assessment of the damages is being carried out by the concerned Departments. Many Police checkposts and Office along with the instruments/arms/equipments were swept away by River Teesta. Similarly, Forest Offices with their equipments were also swept by the river and many crematoriums were also swept away by the flashflood. Therefore, a sum total of Rs 1600.50 Lakhs is required for the immediate restoration works.

With the extensive scouring of River Teesta, the landmass /farms along the river belonging to private individuals have been washed away as well endangering the above areas from landslides, which has become a continuous process after the 3rd - 4th disaster event.

Appendix - VII

| State: Sikkim: Extent of damage due to natural calamities | | |
|--|---|--|
| Type of Natural Calamity: | | |
| Flashflood/Landslide/Fire/Windstorm/Avalanche/Hailstorm/Cloud-burst | | |
| SL. No | Items | Details |
| 1. | Period of occurrence | 1 st April - 4 th October 2023 |
| 2. | Total number of districts in the state | 06 |
| 3. | Number & names of districts affected | Gangtok/Pakyong/Mangan Namchi/ Gyalshing & Soreng |
| 4. | Number of Villages affected | 1149 |
| 5. | Population affected (in Lakh) | 129400 |
| 6. | Total Land area affected (In Lakh Ha.) | 252.24 Ha. |
| 7. | Cropped area affected (In Lakh Ha.) | |
| 7.1 | Total cropped area affected | 346 Ha. |
| 7.1.1 | Estimated loss of crops (Rs. in Lakh) | 770.00 |
| 7.1.2 | Area where crop damaged was more than 50% | 261 Ha. |
| 7.2 | Percentage of cropped area held by SMF | 34% |
| 7.2.1 | In State, as a Whole | 43% |
| 7.2.2 | In the affected district | 60% |
| 8 | House damaged | |
| 8.1 | No. of houses damaged (Total) | 5019 |
| 8.1.1 | Fully/ Severely damaged Pucca/ Kutcha houses | 3792 |
| 8.1.2 | Partly damaged Pucca House | 1036 |
| 8.1.3 | Partly damaged Kutcha House/Huts | 191 |
| 8.1.4 | Cattle Sheds attached with house | 1870 |
| 8.2 | Estimated value of damage house (Rs. In Lakh) | 3012.60 |

| | | |
|--------|--|---------------------|
| 9 | No. of human live lost | 58 |
| 10 | No. of persons who suffered grievous injures | 48 |
| 11 | Animal & Poultry Loss | |
| 11.1 | No. of Milch animal Loss | 593 |
| 11.2 | Poultry Birds Lost per beneficiary HH | 22949 |
| 11.3 | Buffalo/Cow/Camel/Yak/ Draught Animal | 303 |
| 11.4 | Sheep/Goat/Pig | 1077 |
| 11.5 | Fodder/Feed/Medicine (In lakhs) | 61.48 |
| | | |
| 12 | No. of Relief Camps Opened | 40 |
| 12.1 | Inmates in the relief Camps | 7069 |
| 12.2 | Relief materials distributed to HH | 15613 |
| 13 | Handicrafts lost HH | 60 |
| 14 | Damage to Public properties (In lakhs) | Damaged Length/ Nos |
| 14.1 | Roads (All) | 218.33 Kms |
| 14.1.1 | State Roads | 92.33 kms |
| 14.1.2 | Urban Roads | 26 kms |
| 14.1.3 | Village Roads | 100 kms |
| 14.2. | Bridges & Culverts | |
| 14.2.1 | Bridges | 33 nos. |
| 14.2.2 | Culverts | 370 Nos |
| 15 | Drinking Water Supply | 3000.00 |
| 16 | Irrigation Sector | 5000.00 |
| 17 | Power Sectors (Poles, Conductors in KM & Transformers) | 5000.00 |
| 18 | Education Sector | 1432.15 |
| | | |
| 19 | Health Sector | |
| 20 | PHSC/PHC's (Damaged/Destroyed) | 100.00 |
| 21 | Community Assets | 1600.50 |

**ADDITIONAL FINANCIAL ASSISTANCE SOUGHT UNDER NDRF
(IN CRORE)**

| Sl. No | Items/Sectors | Amount Required |
|-----------|---|-------------------|
| 1. | Gratuitous Relief | |
| a. | Ex-gratia payment to the families of deceased persons | 2.32 |
| b. | Injured Loss of limbs etc | - |
| c. | Payment for Hospitalisation | 0.0768 |
| d. | Clothing & Utensils for HH | 5.50 |
| e. | Gratuitous Relief for Families whose Livelihood is seriously affected | 24.15 |
| 2. | Search and Rescue | |
| a. | Cost of Search & Rescue measures/evacuation of people affected/ likely to be affected | 10.00 |
| 3. | Relief Measures | |
| a. | Provision for temporary accommodation/food/clothing/medical care, etc. | 20.00 |
| b. | Transportation of essential supplies | As per the actual |
| c. | Provision of emergency supply of drinking water in rural and urban areas | 2.00 |
| 4. | Clearance of Affected areas | |
| a. | Clearance of debris in public areas | 200.60 |
| b. | Draining off flood areas in affected areas | 300.00 |
| c. | Disposal of dead bodies/ carcasses | 0.15 |
| 5. | Agriculture | |
| A. (i) | Assistance to Small & Marginal Farmers that include removal of debris on agriculture land in hilly areas. | 2.00 |
| (ii) | Desilting/ Restoration/Repair of fish-farms | 1.00 |
| (iii) | Loss of substantial portion of land caused by landslide / change of course of rivers | 3.00 |

| | | |
|----------|--|---------|
| B. | Input Subsidy (Where crop loss is 33% and above) | 1.00 |
| (i) | For Agricultura crops, horticulture crops and annual plantation crops | 0.50 |
| (ii) | Perennial crops/ Agro forestry Plantation in own farmland | 0.20 |
| 6 | Animal Husbandry | |
| a. | Assistance to Animal Husbandry Sector | 18.52 |
| b. | Provision for fodder/feed concentrate including water supply and medicines in cattle camps | 0.61 |
| 7. | Handicrafts/Handlooms | 1.50 |
| 8. | Housing Sector | 30.12 |
| 9. | Drinking Water | 300.00 |
| 10. | Roads & Bridges | 100.00 |
| 11. | Power | 50.00 |
| 12. | Education | 14.32 |
| 13. | Irrigation & Flood Control | 50.00 |
| 14. | PHC | 1.00 |
| 15. | Community Assets | 16.50 |
| | | |
| Total | | 1155.07 |

One Thousand One Hundred Fifty-Five crore and Seven Lakhs

**STATUS OF EXPENDITURE FROM STATE DISASTER RESPONSE
FUND (SDRF) ACCOUNT (SIKKIM) 2023-24**

| State: Sikkim, Year: 2023-24 | | IN CRORE |
|------------------------------|---|----------|
| Sl. No | Items/ Sectors | Amount |
| 1 | Opening Balance in SDRF account as on 01-04-2023 | 10.06 |
| | a) SDRF | 10.06 |
| | b) NDRF (Received on 31.03.2023 credited in the government account in April 2023). | 0.00 |
| | c)Total | |
| 2 | SDRF Release during instant Financial Year | 49.60 |
| | a)1 st Instalment | 22.40 |
| | b)2 nd Instalment | 24.80 |
| | c)Total | 49.60 |
| 3 | NDRF Release during the instant financial year, if any | 46.89* |
| 4 | Interest received on investment made as per CRF Scheme | 0.00 |
| 5 | Total Fund Available in SDRF Account (1+2+3+4) | 106.55 |
| 6 | Expenditure incurred as per norms on approved natural Calamities as per the Scheme of SDRF/NDRF | 97.84 |
| 7 | Expenditure incurred on Training to specialized teams on State personnel | 2.36 |
| 8 | Expenditure incurred on procurement of search and Rescue equipment etc. | 2.45 |
| 9 | Total Expenditure incurred (6+7+8) | 102.65 |
| 10 | Balance available in the SDRF account in instant Financial year: - | 3.90 |

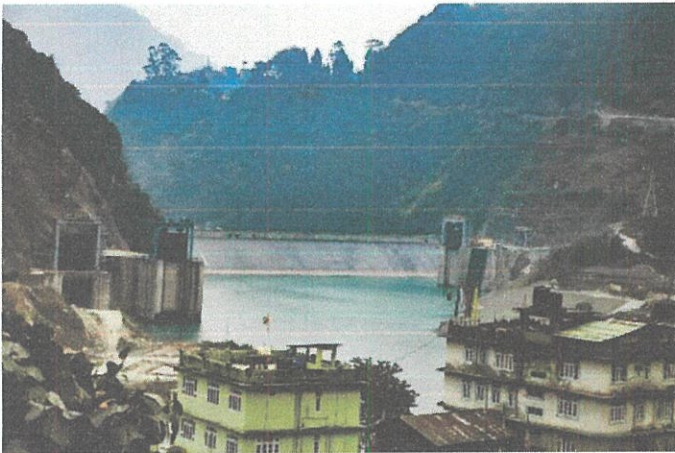
***NDRF for the Financial 2022-23 received during 2023-24**

Rs.46.89 crore

PHOTOGRAPHS

Annexures

Chungthang Dam



Before



After

Chungthang Bridge

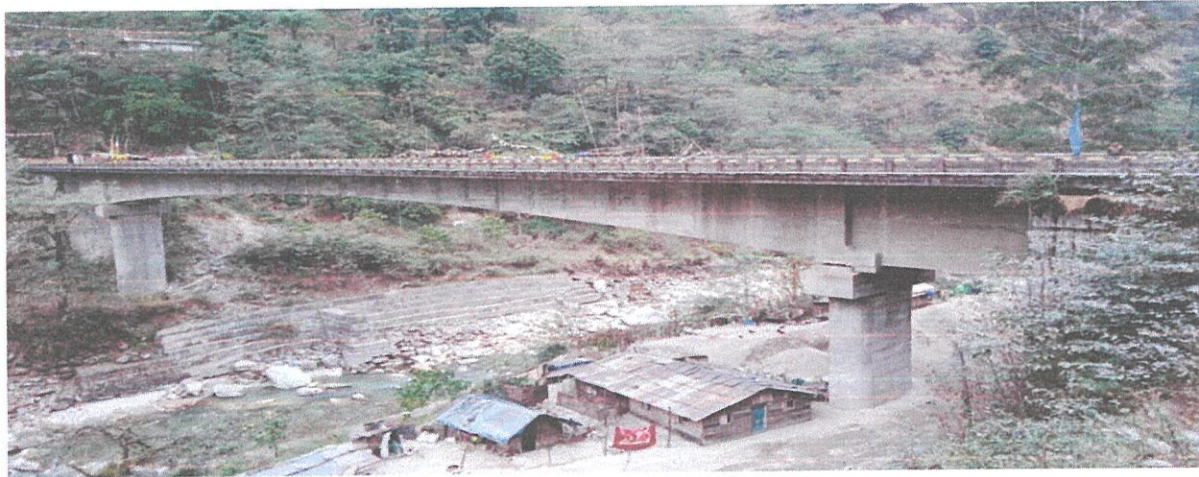


Before



After

Toong Bridge

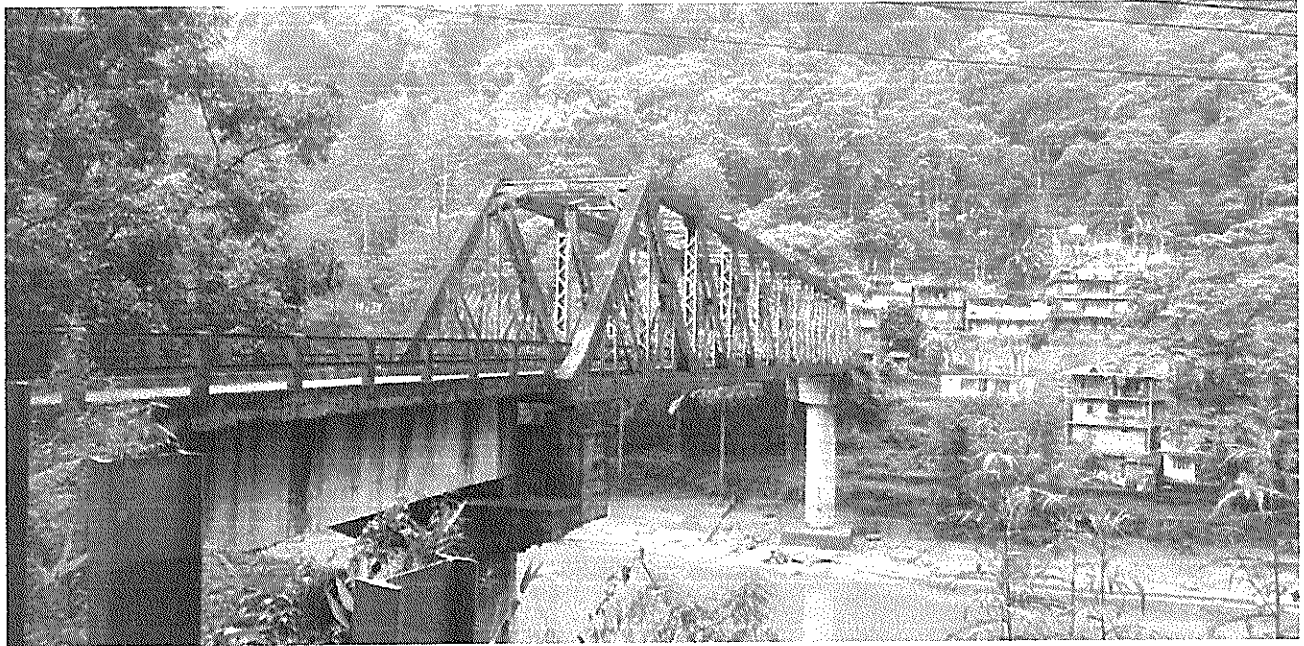


Before

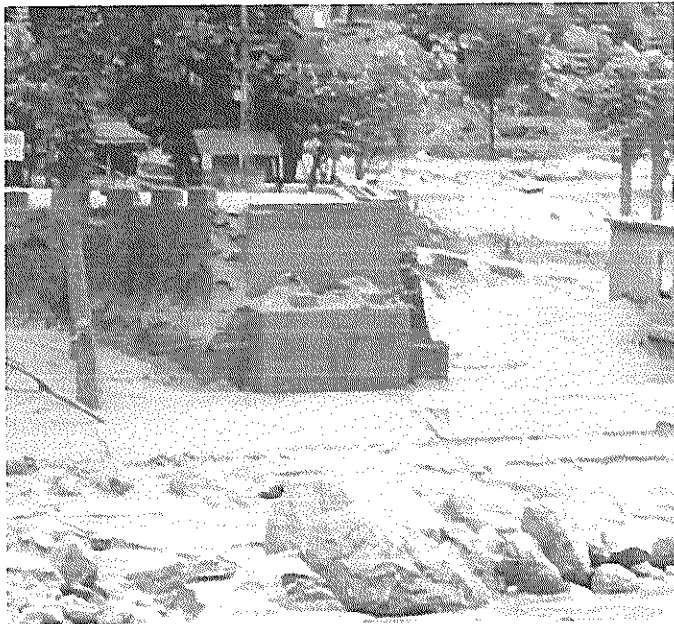


After

Phidang Bridge



Before



After

Kankha Bridge



Before



After

Teesta V Dam Dikchu



Before



After

Tanak Bridge Makha



Before



After

LD Kazi Bridge Sirwani



Before



After

Teesta V dam Sirwani



Before



After
Indreni Bridge at Singtam

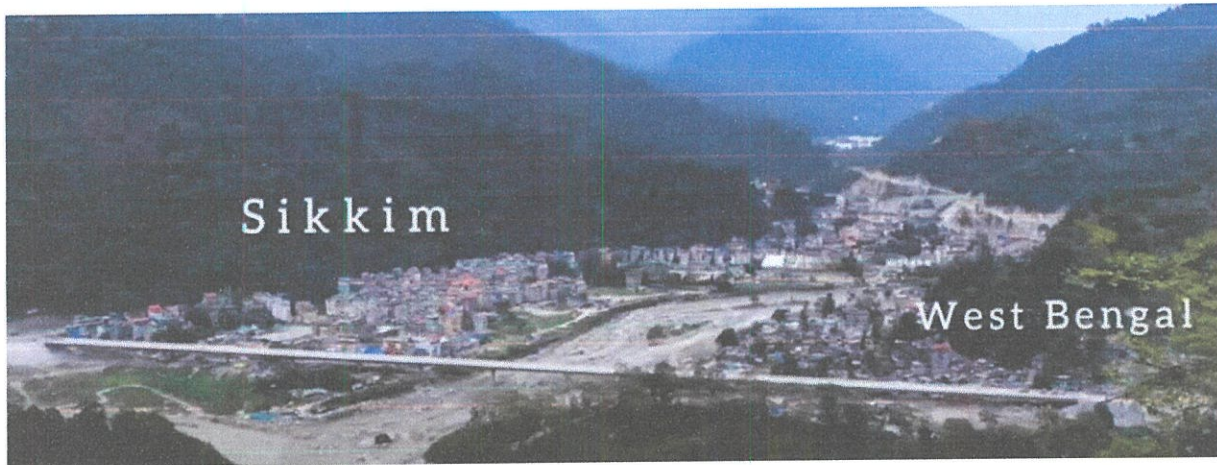


Before



After

Atal Sathu Bridge Rangpo and IBM Areas

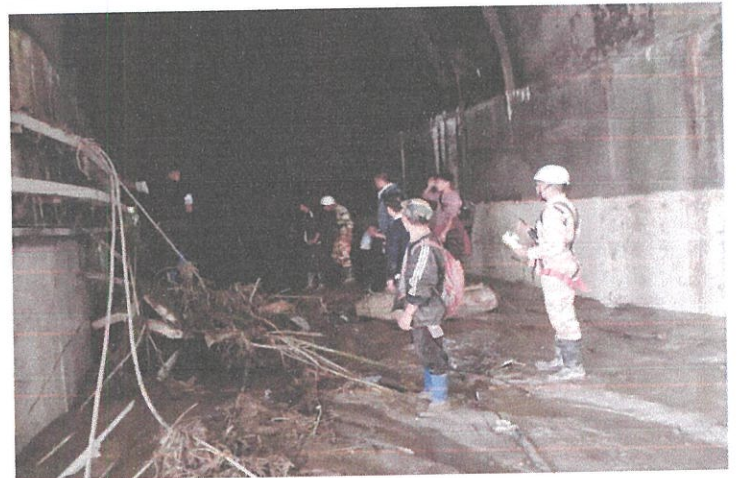
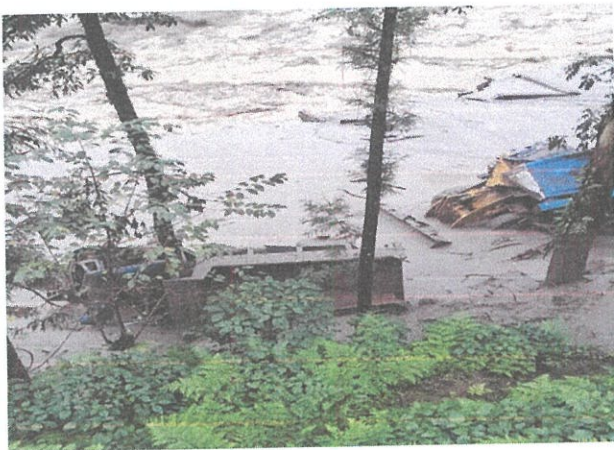


Before

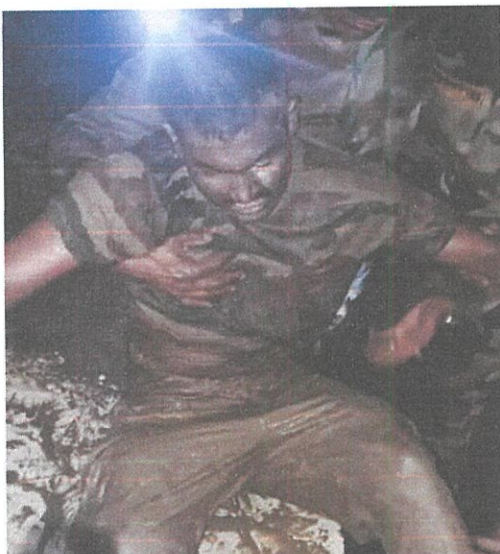


After

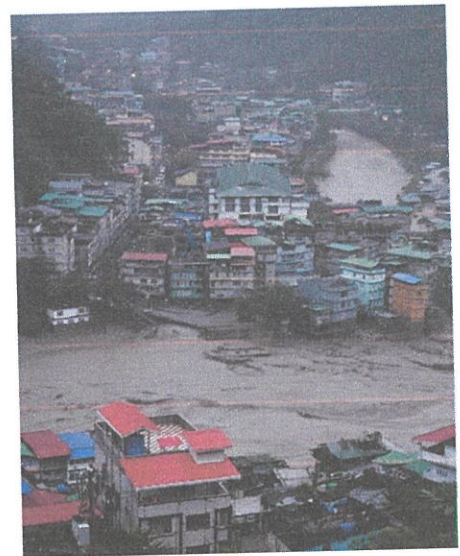
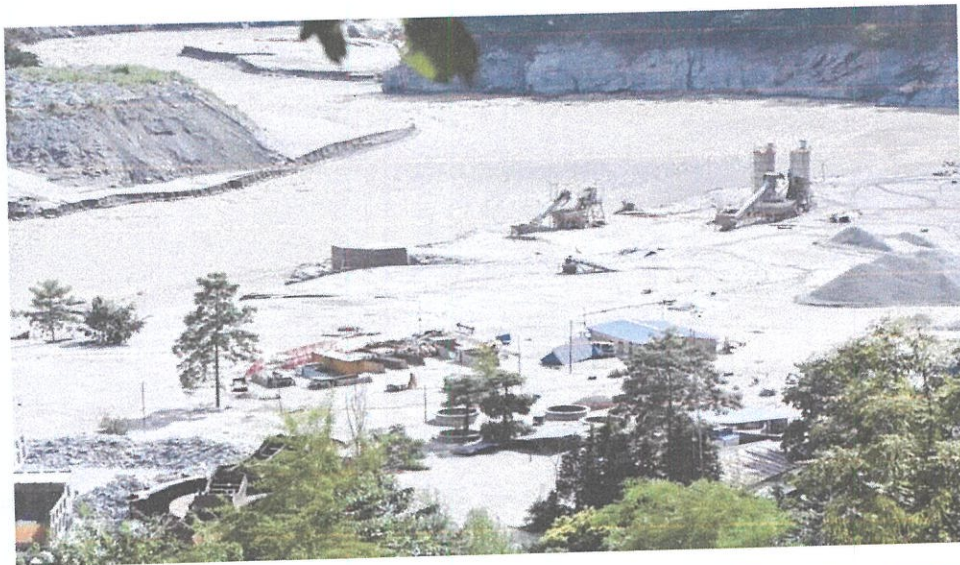
Photographs of the Disaster received from the Mangan District



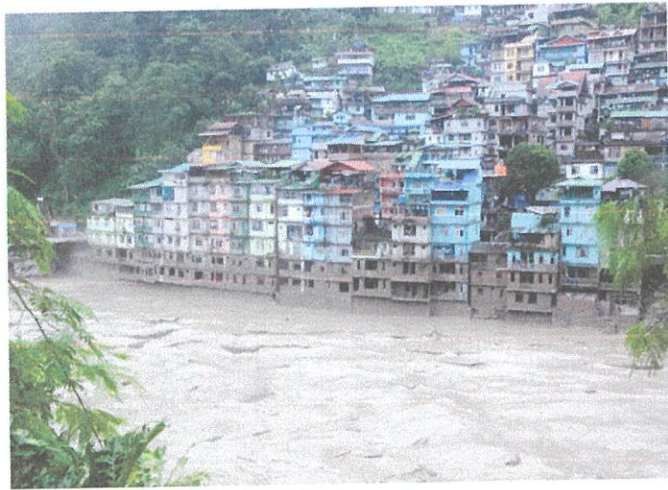
Photographs of the Disaster received from the Gangtok District



Photographs of the Disaster received from the Pakyong District



Photographs of the Disaster received from the Namchi District



MONSOON DAMAGES

Byalshing District



Mangan District



Soreng District



Namchi District



Gangtok District

