



Date.....13.12.2021

D.O.No:- DMA1/313/2021-DMD(i)

Dear

Amit Shah Ji,

The State of Kerala experienced heavy rainfall (more than 100% of the normal rainfall in the months of October and November) during the North east monsoon this year.

The formation of multiple low pressures systems and cyclonic circulations over the Bay of Bengal and the Arabian Sea increased the frequency of extreme rainfall events leading to many disasters such as floods, landslides, lightning, thunderstorms etc. causing loss of lives and damage to property. Public infrastructure was also seriously affected. The continuous and increasing occurrence of disasters is leading to a huge financial burden on the State Government.

The continuous occurrence of floods can be comprehended as an evident example of global climate change as cautioned by the Sixth Assessment Report published by the Intergovernmental Panel for Climate Change (IPCC) in 2021.

The SDRF relief norms have to be revisited the status of special category considering the heightened vulnerability to natural calamities. Subsequent addition is to be incorporated in the permitted activities and enhancement of the amount of Assistance for damaged road infrastructure. Coastal Protection works also to be included as a permitted activity under SRDF/NRDF norms. Detailed memorandum is enclosed herewith.

Warm regards,

Yours Sincerely,

K. RAJAN

Shri AMIT SHAH
Hon'ble Union Minister of Home Affairs
Government of India, North Block, New Delhi.

MEMORANDUM

SDRF RELIEF NORMS



Submitted by
Government of Kerala

Introduction

Kerala is a land of lakes, backwaters and rivers. The State receives rainfall during both the Southwest monsoon and the Northeast monsoon i.e., from June to December. Year on year extreme rainfall events, floods, mud slips and landslides have increased in frequency in the State. These have led to a huge financial burden on the State government to provide relief and to build back better.

This year (2021) also, the State experienced large excess rainfall (more than 100% of the normal rainfall in the months of October and November) during the Northeast monsoon. The formation of multiple low pressures systems and cyclonic circulations over the Bay of Bengal and the Arabian Sea increased the frequency of extreme rainfall events. All these led to many disasters such as floods, landslides, lightning, thunderstorms, etc., causing loss of lives and damage to property. Public infrastructure was also seriously affected. The continuous and increasing occurrence of disasters is leading to a huge financial burden on the State government.

The continuous occurrence of floods can be comprehended as an evident example of global climate change as cautioned by the Sixth Assessment Report published by the Intergovernmental Panel for Climate Change (IPCC) in 2021.

The SDRF relief norms have to be revisited to help the State in coping up with the increased cost of relief and rehabilitation based on the following grounds:

1. State Contribution to the SDRF:

The State has become highly vulnerable to the vagaries of climate change in recent years. The classical consideration of Kerala as a 'general category' State may be revisited in the changing circumstances. The State may be given the 'special category' status (like that for the North Eastern states, Sikkim, Uttarakhand and Himachal Pradesh) considering the heightened vulnerability to natural calamities. The State's contribution to SDRF may be limited to 10% instead of 25% and the Centre's contribution may be enhanced to 90%.

2. Addition to permitted activities and increasing the amount of assistance for damaged road infrastructure:

The damages and losses occurring to infrastructure due to natural calamities results in a huge financial burden on the State for recovery and reconstruction and even for immediate repair and restoration. Time and again the road infrastructure (local self-government roads and PWD roads) is severely battered. Some roads and bridges are completely washed away due to floods. A length of 77,762.36 kilometres of rural roads and 17,927.68 kilometres of district/major roads were damaged in Kerala Floods 2018, as indicated in Table 1.1. In 2019 floods, 1497.48 kilometres of rural roads and 3900.166 kilometres of district/major roads were damaged in Kerala. During the Tauktae Cyclone in 2021, 11,109.326 kilometres of local self-government roads were damaged. The State is facing difficulty in restoring roads under PWD and local bodies given the existing SDRF/NDRF norms.

Table 1.1 *Damage of Roads due to Disasters from 2018 onwards*

Year	Disasters	Damage to Roads (in km)			
		Panchayath	Municipality	Corporation	Major Roads
2018	Flood and Landslide	52858.54	14,605.68	10,298.14	17927.68
2019	Flood and Landslide	1110.71	303.295	83.475	3900.166
2021	Tauktae Cyclone	11109.326			-



The present norms of relief assistance from SDRF/NDRF with respect to road infrastructure is as detailed below:

(1) As per the relief assistance given under the SDRF/NDRF norms, a maximum of only Rs. 60,000/kilometre is permissible for repair and restoration of rural roads. The permissible maximum amount for district and major roads is Rs. 1,00,000/kilometre. These amounts are insufficient for any sort of restoration. In case of the re-tarring for restoration of rural roads, the cost varies with the width of the road and is almost eighteen to twenty-one times more than the assistance given under the SDRF/NDRF.

(2) The activities identified as of an immediate nature for utilizing funds from the SDRF/NDRF as per revised natural calamity norms for relief assistance for the period 2015-2020 by the Disaster Management Division (DMD), Ministry of Home Affairs (MHA), Government of India includes:

- Filling up of breaches and potholes, use of pipe for creating waterways, repair and stone pitching of embankment.
- Repair of breached culverts.
- Providing diversions to the damaged/ washed out portions of bridges to restore immediate connectivity.
- Temporary repair of approaches to bridges/embankments of bridges, repair of damaged railing bridges, repair of causeways to restore immediate connectivity, granular sub-base over damaged stretch of roads to restore traffic.

The State Government through its Public Works Department and the Local Self Government Engineering Department prepared standard estimates for restoration of roads in Kerala. The estimates are as follows:

1. Restoration of District/Major Roads (PWD) - Rs. 25 lakhs/kilometer
2. Road re-tarring of rural road (3.75 m wide) - Rs. 13 lakhs/kilometer
3. Road re-tarring of rural road (3 m wide) - Rs. 10.75 lakhs/kilometer

The above figures indicate the huge difference between the permissible norms and the cost that is needed for any meaningful restoration. As you are aware, the State Government is not

in a financial position to restore all the damaged roads at this cost with the own funds of State Government.

Hence, the following revision of the rate of assistance and the inclusion of additional items for restoration of road infrastructure is requested:

(1) Considering the cost incurred in repairing and reconstructing the damaged roads, the State is requesting permission to utilise upto Rs. 10 lakhs/km from NDRF/ SDRF for restoring rural roads. Through this, the State will be able to restore the rural roads to disaster resilient standards. By restoring the roads to just motorable conditions (temporary restoration), the vulnerability of the roads to any impending disaster will be several folds and so also increase the financial liability of the State Government as well the Central Government, in the event of the next major calamity.

(2) The permitted activities as per extant norms are not sufficient for undertaking the repair and reconstruction of roads in Kerala. Additional activities are to be included so that resilient and strong roads can be restored and reconstructed to minimize future losses and damages. The following activities are to be included in the already mentioned list of activities identified as of an immediate nature for restoration of roads.

- o Construction of retaining wall on the sides of road.*
- o Construction of storm water drains with slabs.*
- o Provision for using better construction material such as bituminous/ asphalt, concrete, etc., as per the terrain, climatic condition and resilience requirements of the region rather than using the same material as it was before the occurrence of a disaster.*

‘Building back better’ is an accepted philosophy in disaster reconstruction. Inclusion of these activities in the existing list of activities identified would be a relief to the State. This would also help to build more resilient roads. Due to the increasing occurrence of floods, landslides, cyclones and other calamities in the state, it would help the individuals,

communities and government to undertake rescue and relief measures more effectively next time.

3. Restoration and Cleaning of Contaminated Wells after Floods

The main source of drinking water in Kerala is well water (62% as per 2011 census). Due to the increasing frequency of floods in the state the well water is often contaminated and not suitable for drinking. Individual households depend on wells in their homesteads. Also, several piped drinking water schemes of local bodies rely on public wells as source of water. Hence, provisions are to be incorporated to include the cleaning and restoration of wells after the occurrence of a flood as a permitted item in the norms of SDRF/NDRF for relief assistance.





4. Damage of Retaining Wall/Breast Wall

Two- thirds of Kerala's topography consists of midland and highland regions, where half of the State's populations resides. The houses constructed in such topographies are using retaining walls and breast walls. A retaining wall is a rigid wall designed and constructed to resist lateral pressure of soil, where there is a desired change in ground elevation that exceeds the angle of repose of the soil. The purpose of retaining walls is to hold the soil behind them. Breast wall is built to prevent the soil on a natural slope from sliding down due to harsh weather effects. A necessary aspect during construction of houses in these hilly regions is the construction of retaining walls and breast walls (with weeps) to resist the pressure of earth filling and to prevent the soil from sliding down on to the civil structure.

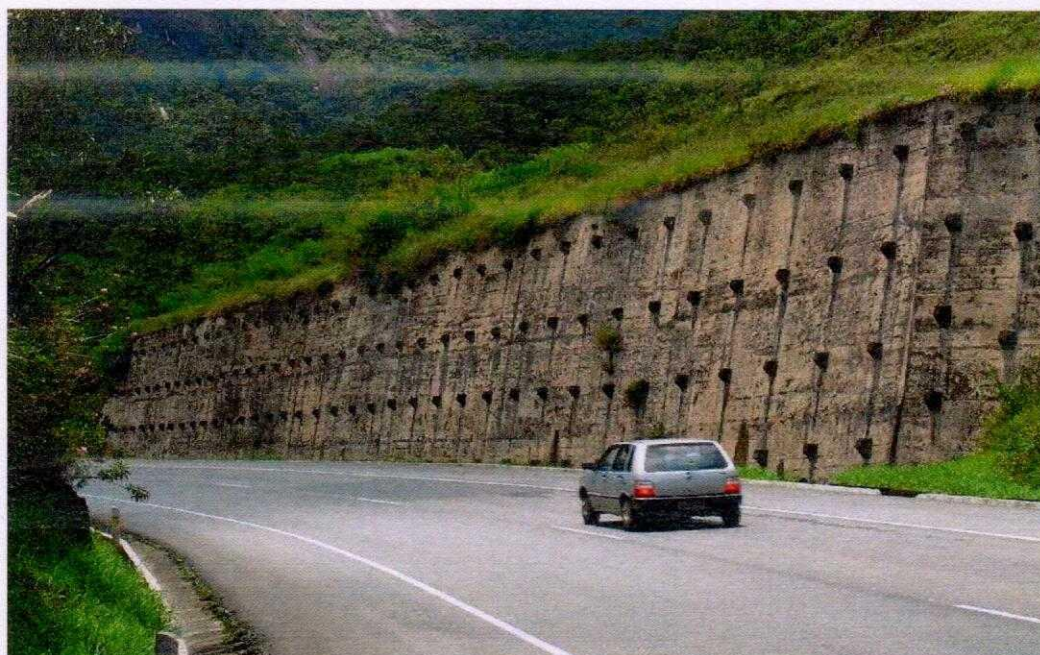
So, the construction of retaining wall and breast wall is very relevant for the protection of the house. The continuous occurrence of flood and landslides in the State causes the destruction of the houses and even the destruction of these walls. Sometimes only these walls are damaged and destroyed. This will affect the house that is protected by these walls eventually and the house may also get damaged during further calamities.

As a stitch in time saves nine. An additional item of relief assistance for restoration of damaged Side wall/ Retaining wall of a house is to be included in the norms of SDRF/NDRF for relief assistance. The house can inturn be protected, saving people, resources and funds.

Retaining Wall



Breast Wall



Damaged Retaining Wall and Breast Wall





5. Coastal Protection works to be permitted under SDRF /NDRF

Major coastal issues in Kerala are:

- *Coastal Erosion:* According to a report released by the Ministry of Earth Sciences, Government of India, in 2016, about 45% (263 km) of the Kerala coast is subject to erosion. Thiruvananthapuram district has the highest coastal erosion. In many places protected by the sea wall, the sea wall often collapses during the monsoon season and high wave conditions, causing coastal erosion in those areas. Also, in areas where there is no seawall, sea swells cause coastal erosion.
- *Sea swell:* Sea swell is one of the major problems commonly seen in coastal areas. Extreme levels of flood danger were announced during the monsoon season, especially during cyclones and low pressure. Since the Arabian sea is getting warmer, as per studies, the frequency and intensity of depressions/cyclones will be more and hence we expect severe conditions in future too.
- *Kallakadal:* It is a flash-flood phenomenon that occurs along the coast without localized winds or any other obvious changes. *Kallakadal* incident is considered to be one of the major social problems in the Indian coast. This is caused by high waves with no sign of local wind affecting the coastal areas.
- *Saltwater Intrusion:* The phenomenon of salt water intrusion is prevalent in low lying areas like Alappuzha. Studies have shown that rising sea levels as part of climate change can cause this phenomenon to spread further inland. Drinking water availability is also one of the major problems along the coast, especially low-lying areas, due to salt water intrusion
- *Coastal flooding:* Flooding due to tidal action especially in the low-lying areas and during the periods of intense rainfall such as cyclones is becoming frequent. Changes in sea level due to climate change will cause flooding in more areas and worsen the situation.

Hence, Coastal Protection works may be permitted under SDRF norms. The prevailing blanket ban may be reconsidered.

ILLUSTRATIVE LIST OF ACTIVITIES IDENTIFIED AS OF AN IMMEDIATE NATURE FOR ROADS

Existing Provisions	Recommendations for Additional Provisions to the existing Provisions
<ul style="list-style-type: none"> • Filling up of breaches and potholes, use of pipe for creating waterways, repair and stone pitching of embankment. • Repair of breached culverts. • Providing diversions to the damaged/ washed out portions of bridges to restore immediate connectivity. 	<ul style="list-style-type: none"> • Construction of retaining wall on the sides of road. • Construction of storm water drains with slabs. • Provision for using better material of construction such as bituminous/ asphalt, concrete, etc., as per the terrain, climatic condition and resilience requirements of the region rather than using the same material as before the occurrence of a disaster (if and only if the professionals believe that changing the construction material would be better and bring resilience against flooding).
<ul style="list-style-type: none"> • Temporary repair of approaches to bridges/embankments of bridges, repair of damaged railing bridges, repair of causeways to restore immediate connectivity, granular sub-base, over damaged stretch of roads to restore traffic. 	

REQUEST FOR RATE REVISION / INCLUSION OF ITEMS IN SDRF/NDRF NORMS

Items	Norms of Assistance
<ul style="list-style-type: none"> • Repair and Reconstruction of Rural roads 	Rs. 10,00,000/- per km
<ul style="list-style-type: none"> • Restoration and Cleaning of Contaminated Wells Due to Floods 	Rs. 10,000/- per well
<ul style="list-style-type: none"> • Restoration of damaged Retaining Wall/ Breast Wall 	Rs. 10,000/- per one meter height and one meter length subject to a ceiling of assistance of Rs 1,00,000/- per beneficiary household.

Coastal Protection works may be included as a permitted activity under SRDF/NRDF norms.