

# A DETAILED STUDY REPORT OF HUMANITARIAN ASSISTANCE AND DISASTER RELIEF (HADR) IN KERALA FLOODS 2018.

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**Abstract :** Floods are the most common and widespread of all-natural disasters. India is one of the highly flood prone countries in the world. Around 40 million hectares of land in India is prone to floods as per National Flood Commission report. Floods cause damage to houses, industries, public utilities and property resulting in huge economic losses, apart from loss of lives. Though it is not possible to control the flood disaster totally, by adopting suitable structural and non-structural measures the flood damages can be minimized. For planning any flood management measure latest, reliable, accurate and timely information is required. In this chapter we see the detailed timeline events of Kerala Floods 2018.

According to Wikipedia Kerala experienced an abnormally high rainfall from 1 June 2018 to 19 August 2018. This resulted in severe flooding in 13 out of 14 districts in the State. According to IMD data, Kerala received 2346.6 mm of rainfall from 1 June 2018 to 19 August 2018 in contrast to an expected 1649.5 mm of rainfall. This rainfall was about 42% above the normal. Further, the rainfall over Kerala during June, July and 1<sup>st</sup> to 19<sup>th</sup> of August was 15%, 18% and 164% respectively, above normal. Month-wise rainfall for the period, as reported by IMD.

**Index Terms:** flood disaster, high rainfall, Full Reservoir Level (FRL), Humanitarian Assistance and Disaster Relief

## 1. INTRODUCTION:

A severe spell of rainfall was experienced at several places on the 8<sup>th</sup> and 9<sup>th</sup> of August 2018. The water levels in several reservoirs were almost near their Full Reservoir Level (FRL) due to continuous rainfall from 1<sup>st</sup> of June. Another severe spell of rainfall started from the 14<sup>th</sup> of August and continued till the 19<sup>th</sup> of August, resulting in disastrous flooding in 13 out of 14 districts.

As per the latest report made available by the State Government on 21<sup>st</sup> August 2018, a total of 400 people died.

## 2. Timeline Events of Kerala Floods:

- 1) 08<sup>th</sup> August 2018: As per IMD data Kerala received rainfall of 310mm over 24 hrs.
- 2) 09<sup>th</sup> August 2018: For the first time in the last 26 years Idukki dams shutter was opened. It was followed by the opening of several dams which resulted in a grave situation.

- 3) 10<sup>th</sup> August 2018: Almost half of Kerala started to sink. Cochin International Airport was closed down as the runway flooded.
- 4) 11<sup>th</sup> August 2018: There happened no improvement in the situation and in reality the situation turned worst as red alert was declared in 8 districts.
- 5) 13<sup>th</sup> August 2018: More landslides were reported and the water level of idukki dam reached 2397.94 feet causing a great threat to life and property.
- 6) 14<sup>th</sup> August 2018: All gates of idukki dam were opened and red alert remained in 7 districts.
- 7) 15<sup>th</sup> August 2018: Gates of 35 Dams opened in Kerala which is first ever in the history of the state.
- 8) 16<sup>th</sup> August 2018: There was no decrease in rainfall and situation worsened in Idukki, Southern Railway and Kochi Metro suspended their operations.
- 9) 17<sup>th</sup> August 2018: The worst ever condition happened in Chengannur, Chalakudy, and Kalady. Chalakudy River reached 16 feet following the opening of dam shutters.
- 10) 18<sup>th</sup> August 2018: Fisherman from Thiruvananthapuram and Kollam took charge of the situation and they successfully rescued people from interiors of Chengannur.
- 11) 19<sup>th</sup> August 2018: Situation started to come back to control as rain weekend. 90% of Kuttanad resident was evacuated.
- 12) 20<sup>th</sup> August 2018: Death Toll reached 252 and people in relief camps were around 10, 29,000. The total loss estimated was around 11,000.

### 3. Economic implications of Kerala floods:

According to an estimate, 20% of the companies in the BSE 500 have direct or indirect exposure to Kerala and the impact of the floods is likely to show up in their second-quarter results.

### 4. Humanitarian Assistance and Disaster Relief (HADR):

The Indian armed forces have a wide experience of disaster relief operations both at home and abroad, where they have been the core of relief operations. Due to its sub-continental size, geographical location and its vulnerability to disasters, India have kept its forces ready to render assistance at short notice. When Kerala floods came the whole government machinery and agencies come together for the rescue measure. The Central Government sent central forces. The State Police, Fire and Rescue, the Army, the Navy, the Air force, NDRF etc. sprang into action in war footing measure, our army, who ventured into places where no one dared to go.

In this chapter we will see detailed HADR Response by Government agencies and Non-Government organization.

#### 4.1 Kerala Police and Fire and Emergency Service Personal:

- 1) The Kerala Police conducted one of its biggest operations, in recent times, to provide rescue and relief, to the flood ravaged and landslides victims of Kerala. Police deployed, on an average, a total force of more than 10,000 officers and men, every day w.e.f. August 8, 2018.
- 2) Local police, who were the first respondents, followed by the Armed Battalion manpower which rushed to the spots. Later, as the situation turned worse, the Coastal Police, the RRF, the Thunderbolt Commandos, the Women Battalion personnel, Women Commandos, officials from all special units of Police like CBCID, KEPA, SCRB etc.
- 3) Officers of all ranks from Police Constables to ADGP level Officers did field work.
- 4) Kerala Police opened special control rooms at the most affected places, where all the calls were handled and information was passed on to regional units and rescue boats for action. An Emergency State Control Room of State Police Chief was opened at PHQ. The Intelligence Control Room

(SPMR) was strengthened. As per the available records, the State Control Room and the Regional Control Rooms handled more than 6 lakh calls from abroad and messages in the days of rescue.

- 5) The Fire and Rescue Department along with the other departments tried their level best to beat the monsoon mishaps in the state.
- 6) Fire and Rescue Department started the operations to rescue the stranded people using the rubber boats, life line, life jackets, life buoys, outboard engine, concrete cutter, hydraulic tools, and other safety harness.
- 7) Around 1500 people were rescued from Ranni on August 14 and thousands were rescued from Chengannur, Aranmula, Aluva, Chalakkudi, Mananthavady, Kalpetta and many other places.
- 8) A control room was set up by the Department to monitor and coordinate the rescue operations.

## 4.2 Armed Forces and Paramilitary:

Army, Air Force, Navy & Coast Guard, all the 4 armed forces of the Ministry of Defence pushed into action for a month-long HADR operations. This is the third HADR operation in the state by the defence forces in the past year. When cyclone Ockhi devastated coastal Kerala and during the rescue operations for the Latvian medical tourist Liga was in progress, the state Government requested the help of the forces and extensive and intensive HADR operation were carried out for the same.

## 4.3 INDIAN ARMY- OPERATION SAHYOG:

- 1) On 9<sup>th</sup> Aug, based on the request from the state government and as per the direction from the Ministry of Defence one column of army dispatched from Pangode Military Station to the flood hit districts of Idukki.
- 2) The entire control of the army movements were vested with the Kerala & Karnataka (K&K) Sub Area situated in Bangalore. GOC, K&K Sub Area Major General Sanjeev Narain gave direction to Defence Security Corps (DSC), Kannur and Pangode Military Station to take immediate action.
- 3) In the morning of August 9, Defence Security Corps (DSC), Kannur headed by Commandant Col Ajay Sharma sent 5 columns of army, one column each to the flood affected areas of Kannur, Wayanad, Kozhikode, Malappuram and Idukki districts. Meanwhile, Station Commander, Pangode Military Station Brigadier CG Arun deployed various regiments stationed in the 91 Infantry Brigade to rescue the marooned victims.
- 4) The Army deployed 19 columns of soldiers across Kerala which includes 4 columns of Military Engineering Task Force mobilized from different parts of India and one Para Regiment flown in from Bangalore. In addition to that army medical team also brought in to action to take care of the immediate medical exigencies.
- 5) Army operated with life jackets, BAUT (Boat Assault Universal Test), poles, generators, search lights, motor boats (Out Boat Motor) and safely rescued more than 15000 people to the various relief camps across Kerala. Domestic animals and the valuables of the people were also brought in to safety as part of Operation Sahyog.
- 6) In addition to rescue, Army personnel carried ration for the victims in case of exigency, in addition to emergency medical kits, repaired the shattered roads and made it commutable, cleared debris, constructed temporary wooden bridges and even redirected the course of the overflowing rivers to direct the flood waters away from the settlement.

## 4.4 INDIAN AIRFORCE- OPERATION KARUNA:

- 1) Operation Karuna was controlled and coordinated from the Headquarters of Southern Air Command located at Akkulam in Thiruvananthapuram Dist. Air Officer Commanding-in-Chief of Southern Air Command Air Marshal B Suresh commanded the entire air operations.

- 2) Air operations started on August 9<sup>th</sup> from Air Force Station Technical Area, Shangumugom, Thiruvananthapuram, Air Force Station Sulur, Coimbatore, INS Garuda, and Kochi.
- 3) Air Force helicopters operated from helipads located at various flood affected districts like Wayanad, Chengannur, Varkala, Palakkad. Helicopters and transport aircrafts of Air Force operated from Karippur and Nedumbasseri as well.
- 4) Air Force was doing a supportive role for the Army, NDRF, BSF etc. Indian Air Force transport aircrafts AN-32, C-17 Globemaster, C-130J mobilized personnel and equipments of Army, NDRF, BSF, Fire Force from various parts of India and transported them to the flood affected areas through helicopters.
- 5) Tons of equipments, supplies, relief materials and food were transported by IAF transport aircrafts and distributed using helicopters.
- 6) On behalf of IAF, AOC-in-C Southern Air Command Air Marshal B Suresh handed over a cheque of 20 Crore to the Chief Minister at CM's office.
- 7) IAF continued its relief operations by the deployment of RAMT(Rapid Action Medical Team).RAMT from Hindon reached Kerala on 23 August and they set up their medical camps at Kuttanad area.10 medical units from the Southern Air Command.
- 8) AFWWA (Air Force Wives Welfare Association) mobilised relief kits from air commands across India and distributed to various relief camps. The relief kits consists of dress, sanitary napkins and other basic materials for ladies and children.

#### **4.5 INDIAN NAVY and INDIAN COAST GAURD- OPERATION MADAD:**

- 1) Indian Navy and Indian Coast Guard co-ordinated its HADR operations from Kochi.
- 2) Southern Naval Command headed by the Flag Officer Commanding-in-Chief Vice Admiral Anil Chawla is the commander of the entire Naval operations.
- 3) The HADR operations of Indian Navy started well before the Army and IAF, when the torrential rain submerged the Kuttanad area in the month of July.
- 4) MARCOS, diving team, Gemini boats and helicopters were used in a considerable large scale to cover the sizeable area affected by the flood.
- 5) The winching of a pregnant lady by navy helicopter was one among the most risky rescue mission ever happened in Kerala.
- 6) Rescue operation, camps were organized at Kochi Naval Base and Aluva.
- 7) ALH & Seaking helicopters that took off from INS Garuda went for sorties over districts like Thrissur, Ernakulam, Pathanamthitta, Alappuzha winched people and safely dropped them in the relief camps.
- 8) Navy contributed Rs.8.9 Crore to the CM's relief fund. Admiral Sunil Lanba, Chief of the Navy Staff directly handed over the amount to CM of Kerala.
- 9) The HADR Operations of Indian Coast Guard was headed by Shri.Sanatan Jana, DIG, Indian Coast Guard.

#### **5. CONCLUSION:**

Every year India face challenged from severe Natural Calamity or Manmade disaster, as per UNDP India accounts large number of disaster every year at that time of disaster for search and rescue the affected area government launch Humanitarian Assistance and Disaster Relief (HADR) with the help from specialized organization in every disaster first responder is local police or Fire and Emergency Services of that region after if disaster is more critical than government mobilized State Disaster Response Force (SDRF) which is specialized to handle Disaster after that if Disaster take very large shape than state government take help from central government and center deployed is assets which are NDRF, and Armed Forces or Paramilitary which came under the central government.

In Kerala Floods 2018 which is one of the very disastrous flood in Kerala after the year 1926 government deployed all are assets for rescue the affected people in that situation most important is coordination between both civil authority and central authority is most important because local civil authority and very well knows about the topography of the area including routes, local language and shelter home, in Kerala Floods we saw very well coordination between both authority, and people came forward to help each without any discrimination on any basis we saw most of the religious places became shelter house which saw our societies unity in diversity.

The Role of every authority which takes part in this largest rescue operation Wheatear it's from Civil or Defense every organization work hard to secure others life without thinking about self, we especially appreciate the role Defence Security Corps Unit which mobilized from Kannur and Panngod Military station because most of personal in this are played their career second innings after the retirement from army they joined DSC which provide security for defence establishment.

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