

**Minutes of the Virtual Conference on Monsoon Preparedness - 2021 held on 12 May 2021 under the chairmanship of the State Relief Commissioner, Kerala**

The State Relief Commissioner's (SRC) Monsoon Preparedness Conference 2021 was held online on Wednesday, the 12<sup>th</sup> of May 2021. The meeting started at 11.00 A.M. Heads/representatives of different stakeholder departments and agencies of the Central and State governments, defense and paramilitary forces and District Collectors attended the conference.

The SRC in his introductory remarks briefed about the existing weather situation in Kerala with the IMD forecasting the formation of a Cyclone in the Southeast Arabian Sea and the IMD's Long Range Forecast for Southwest Monsoon, 2021. He underlined the rising trend in COVID-19 cases in the State and its implications on monsoon preparedness and response.

The IMD had also forecasted heavy rains in the state from 14<sup>th</sup> May onwards. SRC remarked that one of the key success elements in managing last year's monsoon was the pre monsoon preparedness done by the line departments and the prepositioning of forces. For addressing the human resource requirement in the districts for handling both the cyclone as well as monsoon eventualities, he directed the District Collectors to deploy necessary staff from various departments in the district to the Collectorate as well as to the local bodies. Rapid Response Teams have been already established at the local body level. In addition, the service of volunteers who are part of Sannadhasena, Civil Defence and Aapda Mitra may also be utilized to handle emergency situations. Populations at risk should be relocated to safer locations in advance by opening relief camps. Considering the COVID-19 situation, 4 types of relief camps need to be pre identified and kept ready. (The guidelines for the management of relief camps are given as Annexure III of the Orange Book of Disaster Management published by the KSDMA)

- The Member Secretary (MS), KSDMA explained the long range forecast (LRF) of Southwest Monsoon 2021 released by IMD in April, 2021. The LRF is an indicator only and subsequent refined forecasts with prediction on date of monsoon onset will be released by the IMD within a few days. As far as the Cyclone alert is concerned, MS KSDMA explained that the system is still in the form of a low pressure only and exact track will be predicted by IMD once the formation is confirmed. Even though the cyclone track may probably not pass over Kerala, the state has the probability of getting affected by heavy rainfall and winds. Based on this, fishing ban had been imposed all along the Kerala coast from the midnight of 12<sup>th</sup> May, 2021.
- IMD representative explained that as per the LRF, Southwest monsoon (June to September) seasonal rainfall over the country as a whole is most likely to be normal (96 to 104 % of Long Period Average (LPA)). Quantitatively, the monsoon seasonal (June to September) rainfall is likely to be 98% of the Long Period Average (LPA) with a model

error of  $\pm 5\%$ . Dr Mini also explained the current scenario with respect to the formation of low pressure and depression over Southeast Arabian Sea.

- From the Forces, Station Commander, Pangode, Trivandrum stated that the Indian Army is fully prepared to handle any disaster situation. Six teams with each team comprising of 22 members are fully prepared with all required resources for humanitarian assistance. He requested that for the Engineering Task Force team to be moved from Bangalore, the location to which they have to be positioned needs to be informed in advance. Seven 'Boats Assault Universal Type' (BAUTs) are already available with the Trivandrum unit. He also suggested for arranging sufficient number of oxygen beds for the COVID-19 patients who may have to be shifted to relief camps. SRC informed that various measures have been taken by indentifying four types of camps as per the Orange Book and that patients needing oxygen support would be shifted to the nearest COVID First Line / Second Line Treatment Centers.
- Naval Officer-in-Charge, Kerala informed that they are ready for any sea assistance or search and rescue operations if required.
- DIG, SHQ BSF Trivandrum stated that 2 battalions of BSF are stationed in Kerala – one in Thrissur and the other in Calicut. However, the Thrissur Battalion is already committed with some other engagement and half of the men from Calicut Battalion are under quarantine after Kumbh Mela duty. At present, 300 BSF men from Calicut Battalion are available for emergency response operations, if needed. He also informed that the BSF units are not having amphibian vehicles right now and that if the state government can send a request in this regard, they can approach the BSF HQ in this regard.
- As the IAF could not join online due to technical issues, on behalf of the IAF, the MS KSDMA informed the meeting that IAF has requested for arranging a hangar in Trivandrum to pre-position one helicopter for emergency response operations during the monsoon (as operations from Sullur base from across the Ghats in bad weather is often difficult).
- Officer Second-in-Command, 4<sup>th</sup> BN, NDRF stated that two teams of NDRF are placed at Thrissur to handle any emergency situation and that additional teams will be moved as per request, with approval from NDRF HQ. He brought up before the meeting two issues faced by the NDRF in previous operations. One was regarding arranging accommodation for officers and team members placed on duty at SEOC, Trivandrum. The other was regarding penalizing two of their trucks for over speeding, as in disaster scenarios they may be crossing the speed limits for reaching the affected areas at the earliest. Consideration may be given to NDRF trucks during disaster situations. The SRC assured that these concerns would be addressed.
- Representative from the Indian Coast Guard stated that Cyclone warnings are being given to fishermen on VH frequencies close to the shore through the radar stations. Coast Guard

aircraft and units at sea are also shepherding the fishing vessels to safer locations.

- Director General, Fire and Rescue Services explained the various measures taken by the department based on the Cyclone alert. Fire & Rescue services along with Civil Defence volunteers are ready for attending any eventualities. Eighty six ambulances are available with the Department with around 80 paramedics, who are civil defence volunteers. Two ambulances with oxygen support and paramedics are kept available in every district. DG requested for a list of hospitals which are in hazard prone areas and the relief camps for shifting the evacuated COVID-19 patients to be made in advance to make plans for evacuation. Fire Audit of hospitals has been done by the department and necessary instructions have been given to avoid fire and chemical accidents at hospitals.
- Principal Secretary, Science and Technology Department raised a concern based on the above normal rainfall received in some of the districts in the last three months. Due to this, soil moisture level has already gone up, more rains are expected from the depression formed now and IMD forecasted normal monsoon as well. If any spike in rainfall happens for a few days as shown in some simulations, that may result in flooding and landslide events in vulnerable areas. He suggested, specifically for Idukki district to locate cracks etc. in the topography with the help of local bodies and to take necessary actions based on that.
- The Chairman, KSEB Ltd informed that Emergency Action Plans have been prepared and approved by the Central Water Commission for the 33 major dams under KSEB's control. Pre-monsoon inspections of dams are over and the health of dams is fine. Rule curves have been made for all the major dams. At present, the live storage is less than 32 %. All the pre-monsoon actions as per dam manual are getting completed. Shutters are in operable condition and satellite phones, sirens and generators are in place. In case of emergency, water will be released from the dams only after getting concurrence from the DDMA.
- In reply to the query raised by the Commissioner, Disaster Management regarding the actions taken for ensuring uninterrupted power supply for Oxygen plants, distribution and filling points, health facilities and Air Separation Units (ASU Oxygen plants) in the State, Chairman KSEBL replied that Rapid Action Teams have been constituted for early restoration of power due to natural calamities and that the State has surplus power now. He also informed that back feeding (feeding through a different feeder when the regular feeder line is down) will be arranged in all possible cases and that power supply will be switched to the alternate feeder in a few minutes. No power cuts are in place at present.
- The SRC also directed all District Collectors to ensure redundant power source in all health facilities including gen sets to ensure uninterrupted patient support in all hospitals.
- Joint Director – Health, Directorate of Urban Affairs informed that pre-monsoon cleaning has been started in all Corporations and Municipalities. The department is monitoring the process every week.

- Executive Director, Suchitwa Mission stated that funds for pre-monsoon cleaning have been already transferred. The funds are used to clear canals, remove garbage and provide necessary equipment to Haritha Karmasena workers. State level review meetings with districts will be completed by 13.05.2021.
- With respect to SRC's query regarding removal of sand bar from Thottappally, District Collector, Alappuzha replied that a sand bar of 250m width is there at Thottappally. Directions have been given to the irrigation department for removal of sand bar for which tender has been floated. The tenders received will be opened on 21<sup>st</sup> May, 2021 and the removal process will start on 22<sup>nd</sup> May. In the case of emergency, DDMA will order removal of sand bar earlier, urgently. A Government level meeting was also conducted with KMML to remove the sand (and to desilt the channel downstream of Thottappally spillway).
- District Collector, Pathanamthitta informed that discussions were held with engineers from Major Irrigation Department regarding silt removal from Pamba River. At present, silt deposit is less in quantity compared to last year. The deposited silt has been already removed; other minor deposits of debris, accumulated garbage, etc. will be removed in the next 10 days by the Irrigation Department.
- In continuation of the discussion on silt removal, MS, KSDMA pointed out that every year decisions are made for silt removal during the month of May but due to fund crunches with the Irrigation Dept., this is not being completed on time. Later when it becomes an emergency after the monsoon onset, emergency funds are tapped for this. In this regard, Irrigation HOD was requested to share the current plan to open up the river / estuarine mouths wherever needed by removing silt / sand bars. However, Chief Engineer (Irrigation and Administration) who is in charge of this process was not present in the meeting, for his remarks. Chief Engineer, IDRIB informed that he would pass on the information to CE (I & A).
- Chief Engineer, IDRIB, Irrigation Department and Member, Dam Safety Authority said that out of the 20 structures managed by the Department (16 dams and 4 barrages), currently water level in Malankara Dam is on the higher side due to inflow from Idukki Reservoir and rain in the catchment areas. Two out of the 6 shutters of the dam are open to a height of around 10 cm. In case of any eventualities, other shutters will be opened. Emergency Action Plans for the dams/ barrages have been reviewed and dam managers have been alerted. For ensuring uninterrupted communication, satellite phones have been installed in all structures.
- Director of Fisheries informed the meeting about the measures taken to handle the Cyclone alert issued by IMD. Alerts have been passed on to fishing vessels which are on multiday, deep sea fishing to land in the nearest fishing harbors. Mic announcements were done in all marine fishing villages and fish landing centres. INCOIS is directly keeping in touch with

fishermen through more than 1 lakh mobile numbers. The Coast Guard is also helping in the operation to ensure the return of fishermen at sea to safer coasts.

- APCCF, Forest Department shared that the department identified and listed flood prone and landslide prone areas within the forest, interior colonies vulnerable to disturbances and safe locations, in case evacuation is needed. Division level emergency evacuation plan is ready and district level nodal officers have been designated to keep in contact with DDMAAs.
- Director, Social Justice Department informed that a list of senior citizens and people with disabilities have been prepared, to give special attention in case of evacuations. Issue of warnings in sign language has been started with the support of SDMA on everyday basis.
- As informed by the ADHS (Medical), Health Dept. has taken the following measures as part of monsoon preparedness, taking the COVID surge scenario also into consideration. Requirement of medicines and medical products like medicines for diabetes and hypertension, Doxycycline (for Leptospirosis prophylaxis) ORS, bleaching powder, masks, sanitizers, etc. are being ascertained and arranged. Also giving special attention for patients with diabetes, hypertension, cancer, etc. with the support of social justice department is being catered to. Volunteers are trained for screening of patients, temperature checking etc. Transportation for patients will be arranged when in need. Special arrangements have been made to treat people injured due to landslides, snake bites, etc. Hospitals have been directed to procure adequate amount of anti-snake venom. Special measures to strengthen communication, triage protocol and surge capacity planning are also emphasized along with promotion of e-Sanjeevini. DMOs have been directed to map flood prone, low lying areas and shift medicines, records etc. from those areas to safer locations, in case of flooding of CFLTCs, CSLTCs, DCCs, Hospitals or PHCs. DMOs have been asked to make plans as to where the patients will be shifted along with proper transportation plan also.
- Managing Director, Kerala Water Authority informed that special measures have been taken to monitor water levels in Peppara and Aruvikkara dams and to ensure close coordination with DDMA, Thiruvananthapuram. Sufficient residual chlorine is being ensured in drinking water and extra chlorine is used for additional safety. Sufficient stocks of chemicals in Water Treatment Plants have been ensured. One round of water pipeline maintenance has been completed. KWA is fully prepared for the Monsoon season.
- With respect to telecom operations, Smt Shobana DDG, Telecom informed the meeting that more than 100 Cell on Wheels (CoWs) under different operators have been kept ready for deployment, considering the cyclone alert in place. All operators in the circle have constituted Rapid Response Teams to attend to connectivity / fiber failures and tower failures, if any. Intra circle roaming for KSDMA Toll Free no. 1070 has been tested. She requested the updated list of EOC numbers for priority call routing.
- Chief Engineer, PWD Roads stated that as part of monsoon preparedness, decision has

been taken to form a team of laborers for clearing of drains in case of emergencies. He also drew attention to the flood witnessed in Thampanoor due to the flooding of Amayizhanchan thodu and requested for immediate action from Irrigation Department and Trivandrum Municipal Corporation for cleaning the same.

- Representative from Animal Husbandry department shared that rapid response teams comprising of vet. doctors and livestock inspectors have been formed. Instructions have been given to identify the flood and landslide prone areas and safer locations to shift animals in case of emergency. Control rooms have been opened and nodal officers have been appointed in all districts.
- Executive Director, KSRTC informed that buses are ready for movement of forces to affected locations for rescue operations.
- Mission Director, MGNREGS stated that activities associated with pre-monsoon preparedness using MGNREGS workforce is being carried out following COVID-19 protocols.
- Executive Engineer, Central Water Commission said that out of the 38 river monitoring stations in Kerala, in 18 stations manpower is available but the deployment of manpower in the remaining 20 stations will be done by June second week only. Installation of telemetry in additional 10 stations is in progress but permission is yet to be obtained from PWD Bridges and Forest departments.
- District Collector, Wayanad requested state level action for ensuring proper coordination with District Collector, Mysore during the opening of Beechanahalli Dam in Karnataka. Collector stated that such co-ordinated action last year could help in reducing the number of days people had to spend in relief camps.
- District Collector, Thiruvananthapuram requested for intervention to direct Irrigation (Major and Minor) and PWD (Roads) departments to sanction sufficient funds for the cleaning up of blocked drains, etc. on a war-foot basis before the monsoon onset.
- With respect to Ports, the CEO, Kerala Maritime Board informed that tugboats are ready at Vizhinjam, Kollam and Beypore ports for rescue operations.
- The Commissioner, Disaster Management *inter alia* drew the attention of the line departments to pruning of trees and securing bill boards for immediate disaster risk reduction.
- In his final remarks, MS, KSDMA asked for a clarification from the Army side regarding pre-positioning of Engineering Task Force - as to whether this needs to be done now or according to the extreme weather situations. It was clarified that they may be requisitioned by the State and that they would be stationed in Bangalore from where they will be moved in an emergency. The MS, KSDMA also explained about the need to send inputs if any

from line departments / agencies before 20.5.2021 for the revision of Orange Book of 2021.

In conclusion, the SRC decided and directed the following:

1. All line departments and agencies shall take note of the above and act in a proactive manner to ensure thorough monsoon preparedness (All Departments and Agencies)
2. It has been decided to request 10 more units of NDRF to be placed in Kerala, in addition to the 2 teams already stationed in Thrissur. (Action: Kerala State Disaster Management Authority)
3. The IAF shall be requested for positioning two heavy lift choppers, one each in Trivandrum and Coimbatore and preferably an AN 32 fixed wing at Trivandrum. (The lat-long details of 198 helipads have been already given to the Indian Air Force). (Action: Kerala State Disaster Management Authority)
4. Army unit in Trivandrum as well the DSC, Kannur be requested to order 10 Boats Assault Universal Type (BAUTs) and to keep the Engineering Task Force on standby. (Action: Kerala State Disaster Management Authority)
5. BSF water wing be requested to arrange amphibian vehicles for rescue operations. (Action: Kerala State Disaster Management Authority)
6. Incident Response System had been notified in the state and trainings and trial runs have been done. IRS should be put into action in responding to extreme situations. (Action: Kerala State Disaster Management Authority, DDMAAs)
7. It has been decided to give a request letter from the Chief Secretary to Air India for providing hangar to IAF helicopter in Thiruvananthapuram.
8. It has been decided to speed up the sand bar removal process at Thottappally (Action: District Collector, Alappuzha)
9. The updated Orange Book of Disaster Management, 2021 will be published by 25<sup>th</sup> May, 2021. All departments may share inputs, if any to be added in the Orange Book by email before 20<sup>th</sup> of May, 2021. (Action: All Departments)
10. Mapping of all COVID Hospitals, CFLTCs, CSLTCs and DCCs needs to be done to check if any of these are in flood prone areas and they shall be mapped to the nearest relief camp identified. (Action: Kerala State Disaster Management Authority; Health and Revenue to coordinate)
11. Proper COVID safe accommodation facilities for NDRF personnel on duty shall be ensured during their deployment in the State (Action: KSDMA, DDMAAs)

12. It has been decided to speed up the process of opening up of estuaries. (Action: Irrigation Department; DDMA to oversee)
13. NDRF trucks and vehicles while speeding for DM activities should not be fined in the State (Action: Transport Department)
14. KSEBL to ensure uninterrupted power supply to all critical facilities (health and medical Oxygen) and ensure restoration of power supply on a war footing in case of power failures. DDMA to review and ensure redundant power source in all critical facilities associated with COVID Care. (Action: KSEBL, DDMA)

The Chair reiterated that all stakeholders shall take proactive steps to ensure monsoon preparedness. All District Collectors were instructed to hold DDMA meetings for monsoon preparedness and to monitor all necessary preparatory works and activities.

Thanking all the participants, the meeting ended at 12.15 P.M.

#### **Monsoon Preparedness Conference 2021 – List of Attendees**

1. Prof. K P Sudheer - Principal Secretary S&T Department and Executive Vice President, KSCSTE
2. Dr. B. Sandhya IPS, Director General, Fire & Rescue Services and Civil Defence
3. Dr. A. Kowsigan, Commissioner, Disaster Management
4. Shri. K Biju IAS, Commissioner, Land Revenue
5. Shri. Rajesh Ravindran IFS, Additional Principal Chief Conservator of Forests
6. Smt. Navjot Khosa IAS, Chairperson, DDMA & District Collector, Thiruvananthapuram
7. Shri. B. Abdul Nasar IAS, Chairperson, DDMA & District Collector, Kollam
8. Dr. Narasimhugari TL Reddy IAS, Chairperson, DDMA & District Collector, Pathanamthitta
9. Shri. A. Alexander IAS, Chairperson, DDMA & District Collector, Alappuzha
10. Smt. M. Anjana IAS, Chairperson, DDMA & District Collector, Kottayam
11. Shri. H. Dineshan IAS, Chairperson, DDMA & District Collector, Idukki
12. Shri. Suhas S. IAS, Chairperson, DDMA & District Collector, Ernakulam



13. Shri. S. Shanavas IAS, Chairperson, DDMA & District Collector, Thrissur
14. Smt. Mrunmai Joshi IAS, Chairperson, DDMA & District Collector, Palakkad
15. Shri. K. Gopalakrishnan IAS, Chairperson, DDMA & District Collector, Malappuram
16. Shri. Seeram Sambasiva Rao IAS, Chairperson, DDMA & District Collector, Kozhicode
17. Dr. Adeela Abdullah IAS, Chairperson, DDMA & District Collector, Wayanad
18. Shri. T. V. Subhash IAS, Chairperson, DDMA & District Collector, Kannur
19. Dr. D Sajith Babu IAS, Chairperson, DDMA & District Collector, Kasaragod
20. Dr. Sekhar L. Kuriakose, Member Secretary, KSDMA & Head, KSEOC
21. Dr. V. K. Mini, Scientist E, Meteorological Centre, Thiruvananthapuram
22. Brig C Kartik Seshadri, Station Commander, Pangode Military Station, Indian Army
23. Capt. Rajesh Rana, Naval Officer in Charge, Kerala
24. Mr. Kapil Verman, Second-in-Command, 4<sup>th</sup> BN, National Disaster Response Force, 4th Battalion, Arakkonam
25. DIG Sanatan Jena, Commander, Coast Guard, DHQ 4, Kochi
26. DIG, SHQ, BSF, Thiruvananthapuram
27. DIG, Group Centre, Central Reserve Police Force, Pallippuram
28. Smt. V Sobhana, Deputy Director General, Department of Telecommunications, Govt. of India, Kochi
29. Shri. M T Sukumaran, Executive Director, KSRTC
30. Shri. N S Pillai, Chairman, KSEBL
31. Shri. S Venkatesapathy IAS, Managing Director, KWA
32. Smt. C A Latha IAS, Director, Fisheries
33. Shri. T P Salim Kumar, CEO, Kerala Maritime Board
34. Dr. Ummu Selma C, Joint Director – Health, Directorate of Urban Affairs-
35. Dr. Divya S Iyer, Mission Director, MGNREGS

36. Dr. K. Venugopal, Assistant Director, Animal Husbandry Department
37. Dr. Bindu Mohan, Additional Director Health Services (Medical)
38. Sheeba George IAS, Director, Social Justice Department
39. Shri. Mir Mohammed Ali IAS, Executive Director, Suchitwa Mission
40. Shri. Saravana Kumar, Executive Engineer, SWR Dn., Central Water Commission, Govt. of India, Kochi.
41. Member Secretary, Dam Safety Authority and Chief Engineer, IDRB
42. Chief Engineer, Roads & Bridges (PWD), Kerala
43. Chief Engineer, Dam Safety, KSEB
44. Chief Engineer, Buildings (PWD), Kerala
45. Chief Engineer, Local Self Government Department, Engineering
46. Executive Director, CWRDM, Kozhikode
47. Representative from NIC, Kerala State Centre
48. Representative from Mining and Geology Department
49. Representative from Agriculture Department
50. Representative from Homeopathic Department
51. Representative from Indian Systems of Medicine Department
52. Representative from Scheduled Castes Department
53. Representative from Kerala State IT Mission
54. Representative from I & PRD Department
55. Representative from Soil Conservation Department