

Press Brief for media

The Report of the Comptroller and Auditor General of India on ‘Preparedness and response to floods in Kerala’, Government of Kerala, Report No. 6 of 2021 has been laid on the table of Kerala Legislative Assembly on 11 November 2021. Audit Reports, upon their presentation to the Legislature are public documents.

The summary of important points highlighted in the Report is given below:

The Kerala State Water Policy 2008 was not updated in accordance with the National Water Policy and lacked provision for flood control and flood management in the State.

(Paragraph 2.1)

Flood plains of the State are yet to be demarcated and flood plain zoning legislation remains to be enacted.

(Paragraph 2.3)

No large-scale flood hazard map is available in the State. State’s Disaster Management Plan includes flood susceptibility map not conforming to Central Water Commission (CWC) criteria for flood prone area.

(Paragraph 2.4)

Only six rain gauges against the requirement of 32 gauges (as per existing BIS norms) were available for rainfall estimation in Periyar basin by IMD.

(Paragraph 3.1)

Project for obtaining real time data on rainfall, streamflow etc. did not deliver reliable data on real time basis even after a lapse of five years.

(Paragraph 3.4)

Communication infrastructure was non-functional in some areas including dam sites and Government offices during or subsequent to the 2018 floods.

(Paragraph 3.5.2)

Contribution of the spills from Idamalayar and Idukki dams together, to the flows at Neeleswaram gauge station during the days 14to 18 August 2018 was 46.43 per cent, 36.12 per cent, 29.54 per cent, 23.34 per cent and 16.99 per cent

respectively. Contribution of spills from Mullaperiyar to the inflows at Idukki during August 15-18 ranged between 27.93 and 36.62 *per cent*.

There was no rule curve in place for the guidance of dam operators at Idamalayar reservoir at the time of the 2018 floods. Rule curve for Idukki reservoir framed in 1983 was not reviewed until after the flood of 2018.

Though reservoir operations at Idukki during 14 to 18 August 2018 resulted in lower spill of 467.51 MCM compared to 558.19 MCM (indicated through simulation studies) which would have resulted had the Rule Curve (of 1983) been followed strictly, outflows still exceeded inflows on one day (17 August 2018) for 16 hours in respect of Idukki reservoir and on two days (16 and 17 August 2018) for 10 and 21 hours respectively in respect of Idamalayar reservoir.

(Paragraph 3.6)

Though Reservoir Operation Guidelines require capacity surveys of reservoirs to be undertaken at least once in five years, no capacity surveys or sedimentation studies were conducted in any of the KSEBL reservoirs between 2011 and August 2019 (when Audit was undertaken). However, seven sedimentation studies were carried out in 2020.

In respect of reservoirs under the control of the Water Resources Department, though siltation studies had revealed significant levels of siltation in Aruvikkara reservoir (43 *per cent*), Mangalam reservoir (21.98 *per cent*), Peppara reservoir (21.70 *per cent*), desiltation activities were yet to take off other than in Mangalam reservoir which commenced in December 2020.

(Paragraph 3.7)

The Land Use Land Cover analysis for the entire Periyar basin including the test-checked districts of Idukki and Ernakulam revealed an increase in the built-up area by nearly 450 *per cent* during 1985-2015 and decrease in water bodies by nearly 17 *per cent*.

(Paragraph 4.1)

Continuing presence of encroachments on Cheruthoni river bed obstructed the free flow of the river resulting in damages during the 2018 floods.

(Paragraph 4.2)

Despite passage of 20 years since the commissioning of the Cochin International airport and instances of severe flooding in the area, the Irrigation/ Revenue and Disaster Management wings/LSGIs concerned/CIAL have not been able to ensure a well-maintained diversion canal adequate to carry the Chengalthodu waters (in the event of heavy flooding) into the Periyar river to sustain the overall hydrology of the area and ward off the potential risks of riverine flooding to the resident population.

(Paragraph 4.3)

Lower than targetted dredging to deepen and widen the leading channel of Thottapally spillway coupled with the presence of over 500 trees planted inside the spillway mouth resulted in reduction of spillway capacity, contributing to the flood situation in Alappuzha in August 2018.

(Paragraph 4.4)

Though 7124 works of immediate repair and restoration of damages in 2018 flood were approved for execution under State Disaster Response Fund, 18 *per cent* of the works were yet to be completed even after a lapse of two years and eight months (April 2021). The Government informed that the pending works were expected to be completed by May 2021.

(Paragraph 5.2)