

Press Statement of Chief Secretary to the Government of Tamil Nadu regarding the factual position on the release of water from Chembarambakkam tank on 1.12.2015

There have been reports in certain sections of the media that the recent flooding of the Adyar river was the result of improper management of water releases from Chembarambakkam tank. It is thus important to clarify the correct factual position.

The Adyar Sub-Basin is one of the 5 Sub-Basins of the Chennai Basin which also includes the Araniyar, Kosasthalaiyar, Cooum and Kovalam Sub-Basins. The terrain of Chennai Basin is almost flat consisting of flood plains, backwaters and swamps.

The Adyar River originates from the surplus course of Adanur Tank in Kancheepuram District and runs for a total length of 42 k.m. The surplus course of the Chembarambakkam Tank joins the Adyar river near Thiruneermalai at its 18th kilometre. The River runs a further length of 12 k.m. and enters the Chennai City limits near Nandambakkam and runs along Jaffer Khanpet, Saidapet, Kotturpuram and Adyar areas of Chennai City, finally

confluencing with the Bay of Bengal between Srinivasapuram and Besant Nagar.

The total catchment area of the Adyar River is 808 Sq.KMs and there are 198 Tanks in this catchment area.

Chembarambakkam Tank is situated to the south west of Chennai City in Sriperumpudur Taluk, Kancheepuram District and stores water for meeting the drinking water needs of Chennai City. This tank has a catchment area of 358 Sq.KMs. which is part of the 808 Sq.KMs. catchment of the Adyar River. The storage capacity of Chembarambakkam Tank is 3645 Mcft (3.645 TMC ft.) which is about 33 percent of the storage capacity of Chennai's city reservoirs. The Full Tank Level is 24 feet. The maximum discharging capacity of this tank is 33,060 cusecs.

The water level in the Tank on 1.11.2015 was 5.08 ft. with a storage of 228 Mcft. The rainfall in November 2015 in Chennai was 1018 mm, which is the highest rainfall in November since 1918. All the tanks in the Adyar catchment reached full capacity and the surplus water flowed into the Adyar River.

On account of heavy rains in the month of November, Chembarambakkam tank had copious inflows of water in the middle of November. 18,000 cusecs was discharged into the

Adyar river on 17.11.2015 keeping the level of the tank at 22.3 ft. for further inflow during the monsoon period as per the Rules for Flood Regulation of the Compendium of Rules of Regulation.

On 30.11.2015, the water level in Chembarambakkam Tank was 22.05 ft. with an inflow of 750 cusecs and outflow of 800 cusecs. As per the Rules for Flood Regulation of the Compendium of Rules of Regulation, the level of the water reservoirs requires to be maintained at 2 feet below Full Tank Level while the monsoon is still active. **The Rules for Flood Regulation of the Compendium of Rules of Regulation of the Public Works Department balance the interests of water storage for the scarcity period, the need to control flooding in downstream areas and the safety of the reservoir.**

On 30.11.2015, the Indian Meteorological Department (IMD) had sent an advisory about heavy rainfall as follows:-

"Isolated heavy to very heavy rain would occur over Coastal Tamil Nadu and Puducherry. Isolated heavy rain may occur over Interior Tamil Nadu".

In meteorological terminology "isolated" means only in one or two places. Heavy rainfall is between 6.4 cm to 12.4 cm. and very heavy is 12.4 cm. to 24.4 cm.

Further, on 1.12.2015, at 8.30 am the IMD had advised as follows:-

"Scattered heavy to Isolated very heavy rain would occur over Coastal Tamil Nadu and Puducherry. Isolated extremely heavy rain would occur over Tiruvallur, Chennai, Kanchipuram districts of Tamil Nadu. Isolated heavy rain may occur over Interior Tamil Nadu".

Therefore, it is clear that the IMD has only given an advisory of isolated extremely heavy rain but has not mentioned anything about 50 cm of rainfall as is being alleged in certain sections of the media. The allegation that NASA has predicted 50 cm of rainfall is totally false. NASA itself has clarified that they do not predict rainfall.

On 1.12.2015, morning, the water inflow started increasing and the water level in the Chembarambakkam Tank was at 22.08 ft. (3141 Mcft.), a level maintained from 17.11.2015 as per the Regulations. As the inflow started increasing in the morning of 1.12.2015, the levels in the reservoir were carefully frequently

monitored. Due to continuous heavy rains in the catchment area there was a steady increase in the inflow to the Tank which was monitored continuously. The Tank started to receive heavy inflow after 12 noon on 1.12.2015 which continued till next day.

The Assistant Engineer in charge of Chembarambakkam Tank, who is the Controlling Officer of the Reservoir is the competent authority under the Rules for Flood Regulation to regulate flood discharge. **As heavy rain was forecast, Supervisory Officers including the Chief Engineer, Chennai Region of Water Resources Organisation, Public Works Department were also present at Chembarambakkam Tank and personally monitoring the situation. The Engineers in charge of the Tank closely monitored the inflows and the rainfall in the upstream catchment area and accordingly regulated the discharge from the Tank for the purpose of ensuring the safety of the Tank. No specific instructions or orders are required nor were they sought from the Principal Secretary, Public Works Department or the Chief Secretary regarding surplus releases from the Chembarambakkam Tank in the period leading up to December 1, 2015.**

Based on the field situation, the engineers on the spot increased the outflow to 10,000 cusecs at 10.00 am, 12,000 cusecs at 12.00 noon and to 20,960 cusecs from 2.00 pm in the afternoon. This outflow was further increased to 25,000 cusecs at 5.00 pm and to 29,000 cusecs at 6.00 pm based on the inflows and maintained at that level till 3.00 pm next day and reduced gradually. It is thus abundantly clear that the engineers present at the Chembarambakkam tank site had taken the required decision based on the inflow into the reservoir. Similarly, water was being released from many other tanks and reservoirs including Red Hills, Cholavaram and Poondi as a result of heavy inflow for which the local controlling officers took the decisions. Hence, the allegation that they were waiting for instructions from the Principal Secretary, Public Works Department and the Chief Secretary and the imputation that the officers were awaiting the clearance from the Hon'ble Chief Minister are malicious and are canards not supported by the water release data of the reservoir.

In accordance with the Rules for Flood Regulation of the Compendium of Rules for Regulation, prior intimation of the releases including of step up of releases was given by the Assistant Engineer, who is the Controlling Officer,

Chembarambakkam tank to the District Collector of Chennai and Kanchipuram, Commissioner of Police, Chennai, Corporation of Chennai and others requesting them to take all necessary precautionary measures, like evacuation of the people living in the flood plain of the Adyar River. Accordingly, flood warnings were given by the Collector, Chennai and other officials in the Media and precautionary measures were taken up by the officials of the District Administration and Corporation of Chennai. The Collector of Chennai issued a first flood warning when the discharge reached 7,500 cusecs at 11.20 a.m. on 1.12.2015 and a second flood warning when the discharge reached 20,000 cusecs at 1.32 pm on 1.12.2015. The warning about the releases were telecast in the TV channels and FM Radio channels. There were at least 20 repetitions of the warning in the major regional TV channels including Pudhiya Thalaimurai, Thanthi TV, Sun News and Polimer TV from 12.00 noon onwards. In fact all evening papers including Tamil Murasu, Makkal Kural, Malai Sudar and Malai Murasu have reported that 20,000 cusecs have been released from Chembarambakkam.

Police and fire service personnel along with revenue and corporation officials went from street to street alerting the people about the water release through megaphone. Immediately after the second warning, the Collector of Chennai and Corporation of Chennai, in close coordination with Chennai City Police, started the safe evacuation of people from the low lying areas including Saidapet, Jaffarkanpet, Kotturpuram and Ramapuram. Over 30,000 persons were evacuated from these low lying areas. The Collector of Kanchipuram evacuated 17,300 persons. Therefore, the allegation that the State Government had not given sufficient alert to the people is not true.

Earlier, Hon'ble Chief Minister had a review with senior Ministers and officials on the forenoon of 1.12.2015 and had clearly instructed that since there were heavy rains from the night of 30.11.2015 and since the IMD had predicted heavy rainfall on 1.12.2015, all the precautionary measures have to be taken. The Hon'ble Chief Minister had also instructed the senior Ministers to oversee relief and rescue measures. A Press Statement to this effect was also issued on 1.12.2015.

From the inflow, outflow and storage level data of Chembarambakkam Tank, the following becomes self evident:-

- i. The discharge levels were steadily stepped up based on inflows and not all of a sudden.
- ii. At night time, the tank was skillfully and judiciously managed in order to moderate the flow in the Adyar river at night. The reservoir level was steadily brought down from the morning of 2.12.2015.
- iii. The maximum water level in the tank at 9 pm on 1.12.2015 was only 23.40 ft. and had not reached the FTL of 24 ft. **Hence, reports in sections of the media of overflow from Chembarambakkam Tank after the Tank reached its full capacity of 24 ft. is factually incorrect and contrary to facts. The entire discharge was through the regulators and there was no uncontrolled discharge through the surplus weirs.**

Some media reports have suggested that the water level could have been brought down even further below 22 feet to 18 feet or so and the realization of inflows from December 1, 2015 could have been stored in the tank thereby preventing floods. It has been suggested by some that the reservoir level

could have been kept at 75% instead of 86% as was done. The reservoir levels are managed based on the Rules for Flood Regulation of the Compendium of Rules of Regulation which require the water level to be maintained at 2 feet below the Full Tank Level. That rule was followed in the Chembarambakkam Tank on this occasion as well. The Rule balances the interests of flood control, storage of water for the period of scarcity and the safety of the tank.

Given the cross sectional shape of the reservoir, the top two feet of the reservoir have the greatest water spread and hence the highest storage capacity. **The reservoir received about 2.13 TMC ft. of water in a span of 24 hrs from 12.00 noon on 1.12.2015 to 12.00 noon on 2.12.2015 which is about 60% of the capacity of the reservoir. Hence, no significant difference from the flood control perspective would have been made by lowering the level below 22 feet.** Even if the water level had been kept at 75% of the capacity of the tank it would have delayed the release of the heavy inflows merely by two hours.

It must be noted that Chembarambakkam accounts for only 44 percent of the catchment of the Adyar.

The Adyar receives water from other sources like Adanur tank and Manimangalam tank. Even before the release of water from the Chembarambakkam Tank, due to heavy rain of 47 cm which occurred at Mudichur, Tambaram and Thiruneermalai areas of Kancheepuram District and the surplus from Vandalur, Oorapakkam, Irumbuliyoor, Guduvancheri, Nandivaram, Somangalam, Mambakkam, Thirumudivakkam, Kundrathur eri, Mannivakkam and Manapakkam canals and about 166 tanks in that area, the Adyar River carried a huge flow downstream of the confluence point of Chembarambakam Tank surplus.

Further, due to heavy rains, 4 tanks namely, Nandhivaram, Urappakkam, Mannivakkam and Adanur Tanks breached on reaching their maximum water level. This, in turn, resulted in heavy inflow into the Adyar River. Chennai City also received a rainfall of more than 30 cm on 1.12.2015. The flow in Adyar River reached its full capacity due to the surplus from Chembarambakkam Tank, the inflow from the catchment areas of Adyar within Chennai City and the surplus received from the other tanks. In view of the heavy flow in the Adyar River, the high intensity runoff of local rain fall in Chennai City and adjoining

urban areas could not fully drain into the Adyar and hence contributed to the inundation of the City.

The Accuweather Website has stated "For the month of November, Chennai reported 1,024 mm (40.31 inches) of rain, more than 300 percent of the normal rainfall that is expected for the entire month. December has continued this wet pattern as more than 300 mm (12 inches) of rain fell in Chennai on the first day of the month. The event marked the wettest December day in more than 100 years of records in Chennai."

According to B Mukhopadhyay, Additional Director General of Meteorology (Research), IMD, Pune "An individual episode like that on December 1, is a combination of several factors and in every such episode, the combination changes. On December 1, the lower-level moisture supply was high and upper air evacuation of the moisture was also strong. We call this phenomenon upper air divergence, and the effect is that the cloud becomes very intense. Both coincide very rarely." Hence this was clearly a rare natural occurrence which was very difficult to predict. It is thus clear that the flooding on 1st December, 2015 was caused primarily due to the very high rainfall in November, 2015, the second highest recorded in more than

100 years followed by high intensity of rainfall in Chennai, Kanchipuram and Tiruvallur Districts on 1st December, 2015.

The floods in Chennai on December 1st, 2015 was a rarest of rare natural calamity and were not caused by any failure in the management of water releases from reservoirs. In fact, the work of keeping the Adyar River mouth open for free flow of flood water into Bay of Bengal which is being continuously executed throughout the year using machinery helped in the faster discharge of the flood waters, preventing even greater inundation of the City.

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