



“C.R.”

IN THE HIGH COURT OF KERALA AT ERNAKULAM

PRESENT

THE HONOURABLE THE CHIEF JUSTICE MR. NITIN JAMDAR

&

THE HONOURABLE MR. JUSTICE S.MANU

TUESDAY, THE 4TH DAY OF FEBRUARY 2025 / 15TH MAGHA, 1946

WP(C) NO. 27578 OF 2021

PETITIONER:

PRASAD S., AGED 54 YEARS,
S/O. DEVASSIA JOSEPH,
RESIDING AT SRAMPICKAL HOUSE,
ATTAPPALLAM P.O., KUMILY,
IDUKKI DISTRICT-685 509.

BY ADVS. SRI. P. C. CHACKO (PARATHANAM)
SMT. ASHA P. KURIAKOSE

RESPONDENTS:

- 1 UNION OF INDIA (DELETED)
REPRESENTED BY THE SECRETARY,
MINISTRY OF HOME AFFAIRS, NORTH BLOCK,
CENTRAL SECRETARIAT, NEW DELHI-110 007.
- 2 THE SECRETARY, MINISTRY OF ENVIRONMENT,
FOREST AND CLIMATE CHANGE, GOVERNMENT OF INDIA,
CENTRAL SECRETARIAT, NEW DELHI-110 007.
- 3 THE CHAIRMAN, NATIONAL DISASTER MANAGEMENT AUTHORITY,
GOVERNMENT OF INDIA, NDMA BHAVAN, A-1, SAFDARJUNG ENCLAVE,
NEW DELHI-110 029.
- 4 THE COMPTROLLER AND AUDITOR GENERAL OF INDIA, (DELETED)
POCKET 9, DEEN DAYAL UPADHYAYA MARG, NEW DELHI-110 124.

RESPONDENT NOS. 1 AND 4 ARE DELETED FROM THE PARTY ARRAY AS PER
ORDER DATED 21/12/2021 IN I.A. NO. 1/2021 IN WPC.



- 5 THE CHIEF SECRETARY, GOVERNMENT OF KERALA,
GOVERNMENT SECRETARIAT, THIRUVANANTHAPURAM-695 001.
- 6 THE CHIEF EXECUTIVE OFFICER,
KERALA STATE DISASTER MANAGEMENT AUTHORITY,
VIKAS BHAVAN P.O., OBSERVATORY HILLS,
OPPOSITE KANAKAKUNNU PALACE, NANTHANCODE,
THIRUVANANTHAPURAM, KERALA, PIN-695 033.
- 7 THE SECRETARY, DEPARTMENT OF REVENUE,
GOVERNMENT SECRETARIAT,
THIRUVANANTHAPURAM, PIN-695 001.
- 8 THE SECRETARY, DEPARTMENT OF LOCAL SELF GOVERNMENT INSTITUTION,
GOVERNMENT SECRETARIAT, THIRUVANANTHAPURAM, PIN-695 001.
- 9 THE SECRETARY, DEPARTMENT OF IRRIGATION,
GOVERNMENT SECRETARIAT, THIRUVANANTHAPURAM, PIN-695 001.
- 0 THE SECRETARY, DEPARTMENT OF FOREST,
GOVERNMENT SECRETARIAT, THIRUVANANTHAPURAM, PIN-695 001.
- 11 THE DIRECTOR, INSTITUTE OF LAND AND DISASTER MANAGEMENT,
VETTAMUKKU ROAD, PTP NAGAR, ARAPPURAM MUKKU,
THIRUVANANTHAPURAM, PIN-695 038.
- 12 THE MANAGING DIRECTOR,
KERALA STATE ELECTRICITY BOARD LTD.,
VYDUTHI BHAVAN, PATTOM P.O.,
THIRUVANANTHAPURAM DISTRICT-695 004.

BY ADVS. SRI. S. BIJU
SRI. AJIT JOY

BY SENIOR GOVERNMENT PLEADER SRI. K. P. HARISH

THIS WRIT PETITION (CIVIL) HAVING COME UP FOR ADMISSION ON 04.02.2025,
THE COURT ON THE SAME DAY DELIVERED THE FOLLOWING:



“C.R.”

JUDGMENTDated this the 4th day of February, 2025.**Nitin Jamdar, C. J.**

This Public Interest Litigation was filed in November 2021 for a direction to Respondent No. 5 – the Chief Secretary, Government of Kerala, Respondent No. 9 – the Secretary, Department of Irrigation, and Respondent No. 12 – the Managing Director, Kerala State Electricity Board, to submit a sedimentation study report of the dams, reservoirs, and rivers in the State of Kerala.

2. The Petitioner has referred to the provisions of the Disaster Management Act, 2005, which deal with the establishment of a State Management Authority and the measures to be adopted for the prevention and mitigation of disasters. Reference is also made to the Kerala Irrigation and Water Conservation Act, 2003 and the Kerala Panchayat Raj Act, 1994, to emphasise the statutory duties. The Kerala Protection of River Banks and Regulation of Removal of Sand Act, 2001 also provides for the protection of river banks from large-scale dredging of river sand and periodical measurement of the quantity of sand.

3. The petition is filed in the year 2021 primarily referring to the severe floods that affected the State of Kerala during August 2018 and the subsequent monsoon years of 2019 and 2020. According to the Petitioner, the desiltation of dams and rivers has increased the likelihood



of severe floods. Counter affidavits/statements were filed by Respondent No. 9 on 11 January 2022, and Respondent No. 12 on 17 February 2023. The learned Senior Government Pleader pointed out that the State has taken various measures and continues to do so.

4. We have heard Mr. P.C. Chacko, learned counsel for the Petitioner, Mr. B. Premod, learned standing counsel for Respondent No. 12 – KSEBL, and Mr. K.P. Harish, learned Senior Government Pleader for the State.

5. The learned Senior Government Pleader, referring to the statement, submitted that the State Government approved the Standard Operating Procedures (SOP) for the desiltation of reservoirs in Kerala through Government Order dated 26 September 2017. It also approved the desiltation of Mangalam and Chulliyar dams as pilot projects. An empowered committee chaired by the Chief Secretary and a technical committee chaired by the Chief Engineer (Irrigation & Administration) were constituted on 16 June 2018. The Government subsequently approved modifications to the SOP on 14 May 2019. On 8 November 2019, administrative sanction was granted for desilting the Mangalam Reservoir in Palakkad district using the Turnkey method. Following the recent floods in Kerala, a large quantity of debris, silt, and sand accumulated near irrigation structures in rivers. Consequently, as per Government Order dated 8 November 2019, administrative sanction was granted for the desilting of six structures: Cheruthuruthi check dam, Changanamkunnu regulator, Manjummel regulator, Purappallykavu



regulator, Velliyankallu regulator-cum-bridge, and Pookkottumanna regulator-cum-bridge. The State has also submitted that the Thottappally spillway is essential for flood mitigation in the Kuttanad region of Alappuzha district, as it regulates the discharge of floodwaters from the Pamba, Achenkovil, and Manimala rivers into the Arabian Sea. To restore the estuary width to 360 metres, sand and other obstructions were removed, thereby improving floodwater drainage into the sea. This removal is undertaken annually as a part of the ongoing flood mitigation efforts in the Kuttanad region. The Kerala Engineering Research Institute (KERI), Peechi, under the Water Resources Department, is responsible for investigation work, material testing, hydraulic model studies, consultancy, training, quality control, and research in Civil and Water Resources Engineering. It also conducts sedimentation studies of water bodies as required. KERI provides technical support to the Irrigation Department and other State departments, as well as testing and consultancy services to public and private organizations. It has conducted sedimentation studies for several reservoirs, including Kallada, Walayar, Chimmoni, and Peechi in 2018; Malampuzha, Kuttiyadi, Boothathankettu, Neyyar, and Vazhani in 2019; Pothundy, Kanhirappuzha, and Meenkara in 2020; and Pazhassi Barrage, Malankara, and Karappuzha in 2021. The sedimentation study reports prepared by the Sedimentation Division, KERI, Peechi, following the 2018 floods, have provided critical data for desiltation and flood mitigation efforts.



6. The learned standing counsel for Respondent No. 12 – Kerala State Electricity Board Ltd. (KSEBL), referring to the counter affidavit, submitted that KSEBL owns 59 dams and 45 reservoirs, of which only 18 have significant storage capacity. Some larger reservoirs consist of multiple dams, such as Idukki (3 dams), Kakki (2 dams), Banasurasagar (8 dams), and Sholayar (3 dams). The remaining 27 reservoirs serve only for diversion, augmentation, or small hydropower projects. The 18 major reservoirs have a total gross capacity of 4198.39 MCM, including 650.37 MCM (15.5%) of dead storage for sediment retention. Their total live storage is 3548.02 MCM, with Idukki being the largest (1459.50 MCM) and Sengulam the smallest (0.39 MCM). Five reservoirs – Idukki, Idamalayar, Kakki, Banasurasagar, and Sholayar – account for 92.3% of the total live storage. The combined live storage of all reservoirs in Kerala is about 5675 MCM, just 7.3% of the average annual river flow. A Central Water Commission (CWC) study on the 2018 Kerala floods estimated run-off from 15 to 17 August 2018 at 12,000 MCM. Since most storage is allocated for essential needs, floodwater capacity is limited, posing challenges in extreme flood events.

7. Reservoir sedimentation depends on the sedimentation rate and catchment area. In Kerala, smaller catchment areas result in lower annual storage loss. The learned standing counsel cited the *Erosion and Sedimentation Manual* (U.S. Bureau of Reclamation, 2006) to argue that large reservoirs require less frequent surveys. Since reservoirs like Idukki may not reach full capacity within five years, conducting hydrographic



surveys at Full Reservoir Level (FRL) every five years is impractical. If sedimentation rates remain low, surveys may be conducted at 20-year intervals. The CWC periodically assesses sedimentation in major reservoirs like Idukki, Idamalayar, and Kakki using remote sensing. After a 1999 hydrographic survey, storage capacity was reassessed via remote sensing in 2003 and 2019, showing no significant changes. Similar studies were conducted for Idamalayar (2018) and Kakki (2019), with findings indicating an Annual Storage Loss (ASL) below 0.20%. The CWC is now inviting tenders for further sedimentation studies of Idukki, Idamalayar, Kakki, and Banasurasagar under the National Hydrology Project (NHP). Regarding desiltation, KSEBL has submitted a Standard Operating Procedure (SOP) to the Government on 27 September 2021 (Exhibit-R12F). Kallarkutty reservoir has been selected as a pilot project, with sediment quantity assessed and component estimations completed.

8. We have considered the submissions.

9. In this public interest writ petition, the Petitioner, in the subsequent affidavits filed, has repeatedly highlighted the flood situation of August 2019. From the reports placed on record, it is clear that the State Government is not unaware of the issue of sedimentation reducing the original storage capacity of most reservoirs. A Government Order issued on 26 September 2017 has acknowledged this and noted the demand for desilting reservoirs to restore their storage capacity.

10. The Government of Kerala formed a Committee based on a decision made in a meeting chaired by the Chief Minister on 7



November 2016. The Committee was constituted through a Government Order dated 18 November 2016 and included officials from the Water Resources Department, KSEBL, Port Department, Forest Department, Kerala Water Authority, Mining and Geology Department, National Centre for Earth Science Studies (NCESS), and Centre for Water Resources Development and Management (CWRDM). The Committee held meetings on 24 November 2016 and 3 December 2016 to discuss aspects to be included in a draft Standard Operating Procedure (SOP) for desiltation. Based on these discussions, the Chief Engineer of the Irrigation Design and Research Board submitted a draft SOP to the Government on 9 December 2016 for consideration. The Chief Secretary chaired a meeting on 3 January 2017, during which the SOP was discussed in detail, and the following decisions were taken:

- (i) Desilting shall be carried out as pilots in two dams viz, Mangalam and Chuliyar, one by adopting the work contract method and the other by turnkey method, to authenticate the process described in the SOP as well as the technology. The pilots are to be undertaken as proof of concept and to fine-tune the process and technology further in case the pilots are successful.*
- (ii) The SOP shall be put in public domain for one month for comments from the public/activists. For this multiple Government websites as well as press release may be used.*
- (iii) The SOP shall be forwarded to nationally acclaimed experts (Individuals/Institutions) for their scrutiny and suggestions.*

11. A draft SOP is published on the official websites of the Government, Water Resources Department, Revenue Department,



Power Department, Industries Department, Chief Engineer (Irrigation and Administration), and Chief Engineer (Irrigation Design and Research Board) for public comments from activists, experts, and stakeholder departments. The comments received were reviewed in detail during a Technical Committee meeting on 8 May 2017, and necessary modifications were made to the SOP. The revised SOP submitted by the Committee was evaluated in a joint meeting of the Minister for Finance and the Minister for Water Resources on 14 June 2017. Based on the suggestions made in the meeting, the draft SOP was further modified. Subsequently, the Chief Engineer, Irrigation Design and Research Board, incorporated additional changes as per the observations of the Chief Technical Examiner and submitted a revised draft SOP to the Government on 19 August 2017.

12. The State Government, by order dated 26 September 2017 [Annexure-R9(a)], has approved the SOP for the desiltation of reservoirs in Kerala and has sanctioned desiltation projects for Mangalam and Chulliyar dams as pilot projects – one using the work contract method and the other using the turnkey method. Since the dams and reservoirs are located in ecologically sensitive areas and densely populated regions, a comprehensive Environmental Management Plan has to be prepared before starting the desiltation process. The Chief Engineer, Irrigation Design and Research Board, is responsible for ensuring that a nationally accredited agency prepares separate Environmental Management Plans for the two dams.



13. Thereafter, by the said Government order dated 26 September 2017, the Technical and Empowered Committees are constituted. The Technical Committee is constituted consisting of the Chief Engineer (Irrigation and Administration) as the Chairman and the Chief Engineer in-charge of the Project as the Convenor. Similarly, the Empowered Committee is constituted consisting of the Chief Secretary as the Chairman and the Additional Chief Secretary, Water Resources Department as the Convenor. The role of the Technical Committee is to vet and accept the estimated quantity of components in the deposited sediments as well as the estimated cost of each component material/estimated cost for extraction, processing, separation, packing, etc. of each component material. The role of the Empowered Committee is to scrutinize the Detailed Project Report (DPR) in consultation with the Chief Technical Examiner, to decide and approve the bidding method to be adopted for a particular project in consultation with the Chief Technical Examiner, fixation of instalment amount to be paid to the Government, approval of variation in the estimated quality of total sediments and realised total quantity in consultation with the Chief Technical Examiner, and monitoring the progress of work and redressal of disputes, if any, arising during execution of work.

14. Thus, it can be seen that the State Government has undertaken substantial measures concerning the issue of desiltation. Various committees have been constituted, a SOP has been put in place, and concrete steps are being taken to address the matter. Undoubtedly, issues



related to desiltation may arise in the future; however, their resolution falls within the domain of the committees that have been duly constituted for this purpose.

15. The intervention of this Court was sought at a time when a structured framework for addressing the issue was not in place. The prayers in the writ petition are only that a sedimentary study report has to be submitted and appropriate orders are to be passed. The affidavits filed would show that steps are being taken by the Respondents and the siltation and removal of the silt are an ongoing process. With the petition that restricted itself only to the submission of a study report and which has remained pending since the year 2021, it is not possible for us to keep the same pending any longer as the additional affidavits filed by the Petitioner annexing research paper and data will have to be examined by the framework now set up and their feasibility have to be assessed. With the establishment of such a framework, the appropriate course of action would be to treat the present petition as a representation to be submitted to the framework, incorporating the suggestions of the Petitioner. The Petitioner is also at liberty to highlight any specific areas of concern that may require further consideration.

16. We direct that the copy of this writ petition be placed before the Secretary of Kerala Water Resources Department, who will examine the additional affidavits filed. We also grant liberty to the Petitioner to bring to the notice of the Secretary any matters of concern in respect of desiltation of rivers in the State, and upon receiving such a



representation, the Secretary will look into the same as per the Rules and Standard Operating Procedures.

17. With these observations, the proceedings in this writ petition stand closed.

Sd/-
NITIN JAMDAR,
CHIEF JUSTICE

Sd/-
S. MANU,
JUDGE

kri/-

**APPENDIX****PETITIONER'S EXHIBITS:-**

EXHIBIT P1	COPY OF THE NEWS ITEM PUBLISHED IN INDIAN EXPRESS DAILY DATED 18.10.2021.
EXHIBIT P2	COPY OF THE NEWS ITEM PUBLISHED IN HINDU DAILY DATED 18.10.2021.
EXHIBIT P3	COPY OF THE NEWS ITEM PUBLISHED IN INDIAN EXPRESS DAILY DATED 19.10.2021.
EXHIBIT P4	COPY OF THE NEWS ITEM PUBLISHED IN MALAYALA MANORAMA DAILY DATED 19.10.2021 WITH ITS ENGLISH TRANSLATION.
EXHIBIT P5	COPY OF THE DETAILS OF EXEMPTION OF CERTAIN CASES FOR THE PURPOSE FOR REQUIREMENT OF ENVIRONMENTAL CLEARANCE AS PER SUSTAINABLE SAND MINING MANAGEMENT GUIDELINE, 2016 DATED NIL ISSUED BY THE 2ND RESPONDENT.
EXHIBIT P6	COPY OF THE CLAUSE NO.3.7 OF REPORT NO.6 OF THE YEAR 2021 PRESENTED BY THE 4TH RESPONDENT TO THE KERALA LEGISLATURE ON 11.11.2021 ON PREPAREDNESS AND RESPONSE TO FLOODS IN KERALA.
EXHIBIT P7	COPY OF THE REPRESENTATION DATED 24.10.2021 SENT BY THE PETITIONER TO THE 3RD RESPONDENT.
EXHIBIT P8	COPY OF THE REPRESENTATION DATED 24.10.2021 SENT BY THE PETITIONER TO THE 5TH RESPONDENT.
EXHIBIT P9	COPY OF THE ENFORCEMENT AND MONITORING GUIDELINES FOR SAND MINING 2020 DATED NIL ISSUED BY THE 2ND RESPONDENT.
EXHIBIT-P10	COPY OF THE PHOTOGRAPH OF THE KALLARKUTTY DAM AND INSIDE AREA.

RESPONDENTS' EXHIBITS/ANNEXURES:-

ANNEX.- R9(A)	COPY OF THE G.O(MS)NO.79/2017/WRD DTD.26.09.2017
ANNEX.- R9(B)	COPY OF THE G.O(RT) NO.425/2018/WRD DTD.16.06.2018.
ANNEX.- R9(C)	COPY OF THE APPROVAL OF MODIFIED SOP VIDE G.O(MS) NO.14/2019/WRD DTD.14.05.2019.



- ANNEX.-R9(D) COPY OF THE G.O.(MS) NO.49/2019 WRD DTD.08.11.2019.
- ANNEX.- R9(E)- COPY OF THE DETAILS OF THE STUDY REPORT OF RESERVOIRS CONDUCTED AFTER THE FLOOD 2018 BY SEDIMENTATION DIVISION KERI PEECHI
- EXHIBIT R12 A COPY OF THE RELEVANT PAGES OF THE COMPENDIUM OF SEDIMENTATION OF RESERVOIRS IN INDIA 2020 PUBLISHED BY THE CENTRAL WATER COMMISSION.
- EXHIBIT R12 B COPY OF THE RELEVANT PAGES OF THE EROSION AND SEDIMENTATION MANUAL PUBLISHED BY U.S. DEPARTMENT OF INTERIOR BUREAU OF RECLAMATION NOVEMBER 2006.
- EXHIBIT R12 C THE DETAILS OF SEDIMENTATION STUDY DONE ON 14 RESERVOIRS.
- EXHIBIT R12 D THE RESULTS PUBLISHED BY THE DIRECTORATE EMO, CENTRAL WATER COMMISSION.
- EXHIBIT R12 E COPY OF THE LETTER DATED 26-07-2022 OF THE M/S TRAVANCORE CEMENTS LIMITED.
- EXHIBIT R12 F COPY OF THE LETTER DATED 27-09-2021 ISSUED TO THE SECRETARY POWER DEPARTMENT.

//TRUE COPY//

P.A. TO C.J.