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ORIGINAL JURISDICTION

Chief Justice Mr. Nitin Jamdar and Mr. Justice Syam Kumar V. M.

W.P.(C) No.16281 of 2019 and W.P.(PIL) No.28 of 2025

2025 December 17

Green Roots Nature Conservation Forum and another . . . Petitioners

v.

Government of India and others . . . Respondents

Petitioners approached the High Court in public interest litigation challenging order issued by the 3rd respondent, District Collector, as the Chairman of the District Disaster Management Authority, suggesting certain flood containment measures to address the perennial issue of flooding of Kuttanad areas during monsoons. Petitioners pointed out there is indiscriminate mining of sand from 15 Acres of beach near Thottapilly spillway without heeding the ecological impact of such removal and such indiscriminate removal of land is affecting the hatching ground of Oliver Ridley Turtles, which is an endangered species. Petitioners also pointed out that the permission of Coastal Regulation Zone Authority has not been obtained before ordering removal of sand. District Collector contended that the land accumulation and planting of trees are man-made and are not natural and hence, an ecological and environmental study is not essential for removing the same. It was pointed out that presence of sand banks and trees inside the spillway channel, negates the purpose of the spillway and obstructs the channel and the same calls for its timely removal, lest it aggravate the flooding in Kuttanad. It was further contended that the sand removal activity as envisaged in the order is thus a Disaster Management measure squarely falling within the ambit of the Disaster Management Act of 2005. Disposing the writ petition, the Court;

Issue for consideration

Whether the sand obstructing flow of water from Thottapilly spillway and Thanneermukkom Bund to the sea can be removed without any ecological study?

Constitution of India—Article 226—Ecology—Committee directed to be constituted to monitor all aspects of sand/soil mining/removal from the Thottappally Spillway after due assessment of its ecological and environmental impact—Removal of sand shall be done only after obtaining sanction of the committee.

Held:

The absence of an ecological expert in the committee makes the process of sand removal as envisaged by Ext.P5 order a mere regulatory permission. The ecological

impact of the activity cannot be lost sight of and deserves to be taken heed of especially since the area falls within the jurisdictional ambit of the Kerala Coastal Zone Management Authority. The above aspects as discernible from the reports and statements filed before us reveal that flood-control needs envisioned in Ext.P5 order needs to be balanced by including an ecological impact monitoring mechanism that ensures compliance with environmental safeguards. Monitoring by a committee that includes officers and experts of the concerned departments/ authorities, we note would ensure that the flood containment measures envisaged and implemented at the Thottappally Spillway do not get reduced to a routine mineral sand mining project. With a view to ensuring the above, we deem it fit to dispose of these WP (C)s directing that the Chief Secretary, Government of Kerala, to constitute a committee headed by the District Collector, Alappuzha, which should include the senior level officers/experts of the following bodies:

- (a) Irrigation/Water Resources Department
- (b) Forest and Wildlife Department, State of Kerala
- (c) Kerala Coastal Zone Management Authority
- (d) Purakkad and Thakazhy Grama Panchayats.
- (e) 10 Representative of an NGO, with local presence and expertise, as identified by the District Collector, Alappuzha.

The said committee shall be competent to suggest, determine and monitor all aspects of sand/soil mining/removal from the Thottappally Spillway after due assessment of its ecological and environmental impact. Removal of soil/sand from the Thottappally Spillway/ sand bar shall hereinafter be carried out only after obtaining relevant inputs from the committee constituted as above. The said committee shall be constituted within a period of two months from the date of this judgment and let such compliance be reported to this Court. (*Paragraphs 21, 22 and 23*)

List of Acts and Rules:

Disaster Management Act, 2005.

List of Keywords:

Removal of sand, Thottapilly spillway, Oliver Ridley Turtle, Hatching ground, Ecological impact.

Case Arising From:

Writ Petition filed under Article-226 of the Constitution of India.

Appearance of Parties:

Sri. Thomas M. Jacob, Sri. Akhil K. Madhav, Sri. V. Prasanth, Smt. Mangala, Sri. Liju V. Stephen, Smt. Indu Susan Jacob, Sri. Taj K.Tom and Sri. Abhijith U. for petitioners

Sri. M.P. Sreekrishnan, Sri.P.Narayanan, (Sr.G.P.), Sri. B. Pramod, Sri. Nagaraj Narayanan (Spl.G.P.), Sri.M.P.Prakash, Sri. C.Dinesh (C.G.C.), Smt. Latha Anand, Sri. Prakash M.P., Sri. N.Manoj Kumar, (State Attorney), Sri. M.N. Radhakrishna Menon, Sri. K.R. Pramoth Kumar, Sri. S.Vishnu (Arikkattil), Sri. Sidharth.P.S. and Sri..G.Pramod (Sr. G.P.) . . . for respondents

JUDGMENT

The Judgment of the Court was delivered by **Syam Kumar V.M., J.**—These Writ Petitions are filed challenging the order issued by the Respondent - District Collector, Alappuzha, invoking powers under Section 30 of the Disaster Management Act, 2005 (hereinafter referred to as “the Act of 2005”). Since common questions arise for consideration, these W.P.(C) s are heard and disposed of together. For the sake of easy reference to exhibits and contentions, W.P.(C) No.16281 of 2019 is taken as the lead case.

2. Ext.P5 order was issued by the 3rd respondent District Collector as the Chairman of the District Disaster Management Authority, suggesting certain flood containment measures to address the perennial issue of flooding of Kuttanad areas during monsoons. The question that comes up for consideration in these W.P.(C)s essentially concerns the legality of such flood containment measures in terms of their ecological impact.

3. Among the various flood mitigation measures suggested in Ext.P5, one relates to enabling unobstructed and easy flow of water from Pampa, Manimala and Achan Kovil rivers through the Thottappally Spillway, which drains flood waters from the said rivers to the Arabian Sea. Towards achieving free flow, Ext.P5 suggested the removal of sand from the Thottappally Spillway as well as the soil accumulated in the Thannirmukkam Bund. Along with the removal of such sand and soil, cutting and removal of the Casuarina Trees, which block the flow of water from the Thottappally Spillway was also suggested.

4. Petitioners challenge Ext.P5 order, contending inter alia, that the sand removal mentioned therein is not an innocuous disaster prevention measure, as it has been made out to be. The real objective behind the same, allegedly, is to permit continuous and unregulated extraction of mineral-rich sand from the area. They contend that Ext.P5 facilitates the unregulated mining of sand from near the Thottappally Spillway, unmindful of its ecological impact. The direct result of the activity that is thus being carried out at Thottappally spillway for the last few years is the devastation of nearly 15 acres of ecologically sensitive area near the Spillway, which is a ‘Turtle nesting Grounds’ coming under Para 7(1) CRZ-I A(g) of the Coastal Regulation Zone Notification, 2011. Species of Olive Ridley and Hawksbill Turtle, which are included in Schedule I of the Wildlife Protection Act, use the said area as nesting grounds. The implementation of Ext.P5 measures, the Petitioners contend, would have a detrimental impact on such protected nesting grounds.

5. After the filing of the W.P.(C) in 2019, in the course of its pendency, statements/affidavits and replies have been filed by the parties. Stakeholders who were not already in the party array were impleaded and interim orders were rendered from time to

time inter alia seeking status reports and clarifications. Thereafter, Rule was issued and the W.P.(C) was admitted.

6. We have heard Ms.V.Mangala, learned counsel representing Mr.Thomas M.Jacob, learned counsel for the Petitioners in W.P.(C) No.16281 of 2019, Mr.Liju V.Stephen, learned counsel for the Petitioner in W.P.(PIL) No.28 of 2025, Mr.P.G.Pramod, learned Senior Government Pleader, Mr.Nagaraj Narayanan, learned Special Government Pleader, Mr.M.P. Prakash, learned Standing Counsel for the Kerala Coastal Zone Management Authority and Mr.M.P.Sreekrishnan for Respondent No.6 in W.P.(C) No.16281 of 2019 and Mr.S.Vishnu (Arikkattil), learned counsel for Respondent No.7 in W.P. (PIL) No.28 of 2025.

7. The principal grievance of the Petitioners is that Ext.P5 order, which directs the removal of sand from the Thottappally Spillway, had been issued without any assessment of the ecological and environmental impact thereof and without considering the necessity and importance of conserving the biodiversity and the endangered species of sea turtles. The Kerala Coastal Zone Management Authority, upon whom is vested the jurisdiction to decide the permitted and prohibited activities within the coastal zone, had not been consulted nor is involved while the sand mining activity is pursued. No sand mining activity as envisaged in Ext.P5 order could have been carried out without the concurrence and approval of the said competent authority.

8. The 3rd Respondent, District Collector, has, in the statement filed, taken a stand that the land accumulation and planting of trees are man-made and are not natural and hence an ecological and environmental study is not essential for removing the same. The presence of sand banks and trees inside the spillway channel, it is stated, negates the purpose of the spillway and obstructs the channel. The same calls for its timely removal, lest it aggravates the flooding in Kuttanad. The sand removal activity as envisaged in Ext.P5 is thus a Disaster Management measure squarely falling within the ambit of the Act of 2005. The activity so carried out, it is submitted, is regulated and Ext.P5 states the manner and method of carrying out the same under the supervision of the Irrigation Department. A Monitoring Committee comprising officials of the concerned Departments has also been stipulated in Ext.P5 for the said purpose.

9. As regards the removal of sand in the additional statement filed by the District Collector, it has been stated that the removal of sand containing mineral deposits from areas near Thottappally Spillway is being carried out annually and the task has been entrusted to M/s.Kerala Minerals and Metals Ltd. (KMML), which is a public sector company. The quantity of sand thus removed is monitored and its transfer to the premises of KMML is overseen by the officials. It is explained that the said steps and other actions taken by the Disaster Management Authority under Ext.P5 are in accordance with law and are solely aimed at mitigating flooding.

10. The Petitioners, pointing to the admission in the statement that mineral sand was being excavated for profit from the areas around the spillway, filed an additional affidavit. It is inter alia stated therein that every year, for approximately 4 months from June to September, the naturally formed sand bar in the Thottappally Spillway river mouth,

containing mineral sand, is completely removed by rampant, continuous and unregulated mining. The mineral sand so excavated is taken away for processing by M/s.Kerala Minerals and Metals Ltd., and M/s.Indian Rare Earths Ltd., after which even the waste sand after extraction is not deposited back.

11. This Court had, after perusing the statements and the affidavits filed by the parties, issued an order dated 19.12.2024 in W.P. (C) No.16281 of 2019, wherein taking note of the order dated 10.07.2019, it was directed as follows :

“

4. Thereafter, the matter came up for admission on 10 July 2019, further order was passed as under:

“In the additional statement filed on 04.7.2019 by the District Collector, Alappuzha as the Chairman of the District Disaster Management Authority, has mentioned the following with regard to removal of mineral sand from near the Thottappally Spillway and to whom the contract is awarded:

“

3. This statement is being filed by the 3rd respondent in perfect compliance of the interim order passed by this Hon'ble Court on 26.06.2019. On the basis of the Order dated 26.06.2019 of this Hon'ble Court, the 3rd respondent sought the details regarding the extraction of sand intended to be carried out and the area over which the sand is to be removed from the Executive Engineer, Irrigation Department. The Executive Engineer, Irrigation Department having jurisdiction over the area, has submitted a statement along with a location/sketch plan wherein it is specifically stated that quantity of the sand to be removed is 204481 M³. The area from which the sand is to be removed is 48137 M². The location/sketch plan also specifically shows the area from which sand is to be removed. The details of area and the volume of sand to be removed are clearly shown in the location/sketch plan also. A copy of the Statement and the location/sketch plan prepared by the Executive Engineer and submitted to the 3rd respondent for filing this Statement is produced herewith and marked as Annexure-R3(b).

4.

5. As regards the apprehension and concern expressed by the petitioner regarding the auctioning of sand to private parties is concerned, it is respectfully submitted that there is no factual basis for such apprehension. It is submitted that the only sand deposited inside the spillway channel and those from the spillway mouth are to be removed to enable the free flow of flood water. The sand at the above said land area containing mineral deposits are to be removed by KMML which is a public sector company. In

Decision No.3 of Annexure R3(A) discussion took place regarding the rate quoted by IRE/KMML for the removal of mineral sand which is less compared to the one quoted by Harbour Engineering Department. The meeting entrusted the Additional Chief Secretary, Water Resources Department to negotiate with IRE/KMML to increase the rate. After negotiation by the Additional Chief Secretary, the KMML has agreed to pay the same rate as quoted for removing sand from Thottappally Harbour for Harbor Engineering Department. The quotation for removal of mineral sand was invited only from Public Sector Companies and no private firm were allowed to participate in the tendering process. On the basis of the expression of interest submitted by the KMML, the Government have decided to accept the highest offered rate submitted by the KMML and the Chief Engineer (I&A) is directed to take urgent action to execute necessary agreement with M/S. KMML mentioned in the order and move forward to avoid the loss of sand during the impending monsoon so as to allow free flow of water through the pozhil mouth. A copy of the Government Order G.O.(Rt.) No.385/2019/WRD, Thiruvananthapuram dated 31.05.2019 is produced herewith and marked as Annexure R3(c)
.....”

2. From the above, it can be seen that around 4.81 Hectares of area is ear-marked, from which around 204481 M³ of sand, is to be removed. The extent of W.P.(C) beach area is around 220 M, which approximately correspond to the width of the Thottappally Spillway.

3. In the above circumstances, we deem it appropriate to permit the Authorities to proceed in terms of the order dated 07.5.2019 (Ext.P5) of the Alappuzha District Disaster Management Authority. However, to ensure that the Authorities adhere to their commitment as mentioned above, an appropriate report should be submitted to the Court. It is also made clear that since CRZ Notification 2011 is applicable for the proposed activity, the Authorities should arrange to conduct a study of the environmental impact on the removal of sand and apprise the Court after steps have been taken to undertake Such study.

4. The matter be listed after four weeks for report of the District Collector, Alappuzha, as regards the progress of the sand removal work.”

5. When the petition came up on board on 27 February 2023, the Division Bench noted that similar reliefs were sought in W.A.No.1643 of 2021 and W.P.(C)No.21078 of 2021 which were disposed of by the judgment dated 1 November 2022 dismissing the Appeal and the Petition. The Court noted that as against the said judgment, a Special Leave Petition has been preferred and the matter is pending in the Hon'ble Supreme Court. Therefore, when the Petition came up on board on 10 July 2024, the Division Bench adjourned the Petition.

6. Pursuant to the above directions, an additional affidavit has been filed on 17 December 2024 by the Petitioners highlighting the position as regards the ecology of the area. We are informed that the matter as regards the power of the Disaster Management Authority to 19-12-2024 /True Copy/ Assistant Registrar grant permission for removal of the sand is subject matter to the proceedings pending before the Hon'ble Supreme Court. Without going into the said legal issue, if the concerned area needs to be protected as of today, measures to protect the ecology of the area will have to be taken by the Respondents.

7. We direct Respondent No.5 along with the Respondent No.7 to visit the site in question, assess the position of the site and file a joint report as to what steps that need to be taken to preserve the ecology of the area and the issue that have been highlighted by the Petitioners.

8. Let the inspection be carried out and report be placed on record on 21 January 2025. In the meanwhile, the Respondents first seek leave of this Court before cutting trees in the subject area."

12. Thus vide the said order dated 19.12.2024, the Assistant Conservator of Forest, Social Forestry, Alappuzha and the Member Secretary, Kerala Coastal Zone Management, Thiruvananthapuram, the 5th and 7th Respondents respectively were directed to visit the site in person and assess the position of the site and file a joint report as to what steps need to be taken to preserve the ecology of the area and the issues that have been highlighted by the Petitioners.

13. A joint report dated 20.01.2025 has been submitted by the 5th and 7th Respondents, wherein it has been inter alia pointed out that Thottappally channel mouth is a unique ecosystem that marks the confluence of waters of Vembanad lake in Kuttanad region, wherein fresh waters of Pamba river meet the salt waters of Arabian Sea. The report further states as follows:

"It has been observed that the natural landscape of the beach on the northern side of the channel mouth has been disturbed due to sand removal activities over the years. The beach area now features troughs and carved depressions with strata dominated by slit and mud. Large heaps of sand aggregates leftover after mineral separations are scattered along the beach with vegetation growing around them. This disruption has disturbed the natural continuity of the beach, leading to gaps in the shoreline and increased vulnerability to erosion. It has been reported that currently, no mining activity has been observed at the site and that in 2020, under the Disaster Management Act of 2005, 524 casuarina trees planted by the social forestry wing were cut and removed to deepen the mouth of the spillway."

The said report also carried a recommendation that sand heaps leftover after mineral separation have to be levelled, and the said activity, as it is crucial for protecting the endangered turtle species and promoting better nesting grounds to prevent their extinction, has to be carried out with priority. It has also been further recommended in the report that considering the recent nesting events of marine turtles in areas outside CRZIA designated

areas as per Coastal Zone Management Plan, 2019 (CZMP, 2019), the CRZIA category in the area may have to be extended further based on a detailed assessment to ensure more stringent conservation of the ecosystem. Proper sand bypassing has also been recommended to be implemented at the site urgently after conducting a comprehensive scientific study on the hydrodynamics of coastal waters in the region to maintain the coastal equilibrium.

14. Taking note of the said report, which affirmed the ecological disturbance caused due to sand mining, and pointed to a correlation between the sand removal at the spillway mouth region and the disappearance of Pallana beach, it was deemed necessary to assess the extent of sand removal and its consequences on the local ecology. Accordingly, on 09.09.2025, this Court sought responses from the Government on the following questions;

“(a) How is the quantity of sand to be removed under the Act of 2005 for flood control determined and whether it is an annual exercise?

(b) Is the plan for removal of sand prepared based on the needs of each year or is it based on a plan developed earlier? If so, the copy of the same may be produced?

(c) While deciding the quantity of sand to be recovered, is any input regarding the impact on the ecology of the area considered by the decision-making authorities and is any officer representing such concerns part of the decision making process?

(d). Whether any monitoring mechanism is in place to ensure that excavation beyond what is determined to be necessary is not carried out?”

15. In response the above query, the 2nd Respondent, Principal Chief Conservator of Forests and Head of Forest Force, Thiruvananthapuram, filed an affidavit inter alia, stating that the Thottappally-Pallana area is a nesting site for marine turtles, particularly the Olive Ridley, which is listed in Schedule I of the Wildlife Protection Act, 1972 and the levelling of sand heaps after mineral separation is crucial for protecting the endangered turtle species and promoting their nesting grounds to prevent their extinction. A comprehensive scientific study was also suggested to be conducted in the region to assess the ecological impact of sand removal.

16. The response of the 8th Respondent Additional Chief Secretary to the Government, Water Resources, to the above questions has been more elaborate. It has been stated in the affidavit dated 07.10.2025, that the Government had authorised M/s.KMML to remove the sand based on the findings of an expert committee that had reviewed the studies conducted by IIT Madras and the M.S.Swaminathan Research Foundation. As regards the query concerning the determination of the quantity of sand to be recovered under the Act of 2005 for flood control and whether the same is an annual exercise, it has been replied that since 2020 onwards, the activities of removal of sand have been carried out annually. As regards the plan, if any, based on which the removal is carried out, it is stated that at least 300 metres of width of the sand bar at the estuary

mouth is excavated and removed annually. Before the commencement of the de-silting work each year, it is stated that the Irrigation Department conducts surveys in the downstream spillway channel for assessing and recording the quantity of accumulated sand to be recovered.

17. In reply to the query, whether any input regarding the impact on the ecology of the area is considered by the decision-making authorities while deciding on the quantity of the sand to be recovered and whether any officer representing such concerns is part of the decision-making process, it is stated that there is no officer representing ecological concerns in the decision making process and that as per the Coastal Regulation Zone (CRZ) Notification 2019, the Purakkad Panchayat, where the spillway channel and estuary mouth are located, falls under CRZ-IB, permitting the removal of sandbar activities under clause 5.1.2f of 2019 CRZ notification.

18. As regards the query, whether any monitoring mechanism is in place to ensure that excavation beyond what is determined to be necessary is not carried out? The reply as provided by the Additional Chief Secretary to the Government Water Resources Department is that the quantity of sand to be recovered from the spillway channel and estuary mouth to ensure smooth water flow is estimated by Irrigation Department before the commencement of each year's de-silting work and that only the amount of sand required to be recovered for maintaining the effective discharge of flood water to the sea or at least 10 meter width of the sand bar at the estuary is recovered. It is further stated that the progress of the de-silting activities is strictly monitored by officials from the Irrigation Department every year, and that the details and documents are retained with respect to the excavated sand transported to M/s.KMML.

19. It follows from the above that the annual sand mining activity conducted at the Thottappally Spillway is more of an engineering-driven exercise with a sole focus on flood control. It is not carried out after an ecological impact study. No ecology expert is involved or participating in the process. The monitoring that exists is predominantly regarding the quantities removed and no assessment of the ecological impact is carried out. The Principal Chief Conservator of Forests has unequivocally reported that damage to the sea turtle nesting grounds due to sand mining at Thottappally Spillway is a clear and present danger. A comprehensive scientific study to assess the ecological impact of sand removal on the area has also been suggested by the Chief Conservator of Forests.

20. In this context, it is relevant to note that the power of the Disaster Management Authority to grant permission or order the removal of sand involving powers under the Disaster Management Act, 2005 has already been subjected to scrutiny by this Court. The existence of such power to the District Collector has been affirmed, and the said finding has been confirmed by the Hon'ble Supreme Court. Thus, the power of the District Collector to issue Ext.P5 order as the Chairman of the District Disaster Management Authority, invoking Section 30 of the Act of 2005 is no longer res integra. The modality of implementing such directions issued by the District Collector in a manner that is ecologically prudent and sustainable is the key issue that comes up for consideration in the context of Ext.P5.

21. It is noted that Ext.P5 order, while laying down the modalities and detailing the measures to be taken, has entrusted the task upon the Executive Engineer, Mechanical Division, Irrigation Department, Alappuzha and the Chief Engineer, Kuttanad Package. A Monitoring Committee consisting of local-level officials under the Chairmanship of the Deputy Collector (General), Alappuzha, is also envisaged to monitor the activity. Apparently mindful of the ecological impact of the relevant activity, Ext.P5 order also stipulates that removal of soil/sand shall be *“only as a measure of flood prevention action and that only unavoidable changes to avert flood and resultant loss, are to be undertaken”*. Thus, the necessity of protecting the ecology though not totally lost sight of in Ext.P5, the modalities and means of achieving the said object while implementing the directions are lacking in Ext.P5. The absence of an ecological expert in the committee makes the process of sand removal as envisaged by Ext.P5 order a mere regulatory permission. The ecological impact of the activity cannot be lost sight of and deserves to be taken heed of especially since the area falls within the jurisdictional ambit of the Kerala Coastal Zone Management Authority.

22. The above aspects as discernible from the reports and statements filed before us reveal that flood-control needs envisioned in Ext.P5 order needs to be balanced by including an ecological impact monitoring mechanism that ensures compliance with environmental safeguards. Monitoring by a committee that includes officers and experts of the concerned departments/ authorities, we note would ensure that the flood containment measures envisaged and implemented at the Thottappally Spillway do not get reduced to a routine mineral sand mining project.

23. With a view to ensuring the above, we deem it fit to dispose of these WP (C)s directing that the Chief Secretary, Government of Kerala, to constitute a committee headed by the District Collector, Alappuzha, which should include the senior level officers/experts of the following bodies:

- (a) Irrigation/Water Resources Department;
- (b) Forest and Wildlife Department, State of Kerala;
- (c) Kerala Coastal Zone Management Authority;
- (d) Purakkad and Thakazhy Grama Panchayats;
- (e) Representative of an NGO, with local presence and expertise, as identified by the District Collector, Alappuzha.

The said committee shall be competent to suggest, determine and monitor all aspects of sand/soil mining/removal from the Thottappally Spillway after due assessment of its ecological and environmental impact. Removal of soil/sand from the Thottappally Spillway/ sand bar shall hereinafter be carried out only after obtaining relevant inputs from the committee constituted as above. The said committee shall be constituted within a period of two months from the date of this judgment and let such compliance be reported to this Court.

The W.P.(C)s stand disposed as above.

Result of the Case:

Appeal disposed

Headnote Prepared by M.S.
