

**Case Note:** Case concerned with the safety of a dam if the level of the water was to be raised. The court allowed the level to be raised in view of the fact that no danger was posed to human beings and the environment in doing so.

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AIR2006SC1428, 2006(2)SCALE680, (2006)3SCC643

## **IN THE SUPREME COURT OF INDIA**

Decided On: 27.02.2006

**Mullaperiyar Environmental Protection Forum**

**v.**

**Union of India (UOI) and Ors.**

**Hon'ble Judges:**

Y.K. Sabharwal, C.J., C.K. Thakker and P.K. Balasubramanyan, JJ.

## **JUDGMENT**

**Y.K. Sabharwal, C.J.**

1. Mullaperiyar reservoir is surrounded by high hills on all sides with forest and is a sheltered reservoir. The orientation of the dam is such that the direction of wind in the south west monsoon would be away from the dam. It is said that for past 100 years, Tamil Nadu Government Officers have been approaching the reservoir during the flood season only from Thekkady side in a boat and have not noticed any significant wave action.

2. The main question to be determined in these matters is about the safety of the dam if the water level is raised beyond its present level of 136 ft. To determine the question, we may first narrate factual background.

3. An agreement dated 29th October, 1886 was entered into between the Maharaja of Travancore and the Secretary of State for India in Council whereunder about 8000 acres of land was leased for execution and preservation of irrigation works called 'Periyar Project'. In pursuance of the said agreement, a water reservoir was constructed across Periyar river during 1887-1895. It is known as Mullaperiyar Dam consisting of main dam, baby dam and other ancillary works.

4. The salient features of the dam as mentioned in the agreement are as follows:

<b>Type of Dam</b>	<b>Masonry Dam</b>
Length of the main dam	1200 ft. (365.76 mt.)
Top of the dam	155 ft. (47.24 mt.)
Top of solid parapet	158 ft. (48.16 mt.)

Maximum height of dam (from deepest foundation)	176 ft. (53.64 mt.)
<b>FRL (Full Reservoir Level)</b>	<b>152 ft. (46.33 mt.)</b>
MWL (Design)	155 ft. (47.24 mt.)
Crest level of spillway	136 ft. (41.45 mt.)
Maximum water level reached	154.80 ft. (47.18mt)
During floods (till date)	on 03.01.43
Spillway capacity	10 vents of 36' x 16' (10.97 m. x 4.88 m.)
Storage Capacity (gross)	443.23 m.cu.m (15.662 TMC.ft)
Live capacity	299.13 m.cu.m. (10.563 TMC)
Irrigation benefit in Tamil Nadu	68558 ha. (169408.68 acres)
Length of Baby dam	240 ft.(73.15 mt.)

5. In the past, reservoir was filled up to full level of 152 ft. as per the agreement. The agreement was modified in the year 1970. The State of Tamil Nadu was allowed to generate electricity from the project and it surrendered fishing rights in the leasehold land in favour of State of Kerala. It also agreed to pay annually a sum specified in the agreement to the State of Kerala. The Government of Kerala was also granted right of fishing over and upon the waters, tanks and ponds in the land and agreed that the principal deed and all the conditions shall remain intact without affecting in any way the irrigation and power right of the Government of Tamil Nadu.

6. According to the petitioner, there was leakage in the gallery of the dam which affected its security and, therefore, the water level was stopped at 136 feet. In view of such situation, the Central Water Commission (CWC) inspected the dam, held meetings with representatives of both the States of Kerala and Tamil Nadu for considering ways and means to strengthen the Mullaperiyar Dam. At the meeting, certain decisions were taken for the purpose of ensuring security and safety of reservoir and by taking several necessary measures. Three types of measures were envisaged, namely, (i) emergency measures, (ii) middle term measures, and (iii) long term measures. The progress of implementation of measures was also reviewed in the meetings held in 1980, 1983, 1996 and 1997. In this light, it is claimed that water level cannot be raised from its present level of 136 feet.

7. In view of apprehension expressed in the light of leakage, in the year 1979 the water level was allowed upto 136 ft. instead of 152 ft. After thorough study and considering all aspects, the CWC felt that certain steps were required to be taken immediately and both the States of Tamil Nadu and Kerala ought to cooperate. On taking those steps, water would be allowed to be filled upto 142 feet. Some other steps were also suggested for allowing the water to be filled in at the full level of 152 feet. The State of Kerala expressed reservations against the report submitted by CWC and according to a dissent note, appended by the representative of the State of Kerala, the water level could not be allowed to be raised beyond 136 feet. For the present, the only question is whether water level can be allowed to be increased to 142 feet or not.

8. The State of Kerala has filed an affidavit justifying its stand of not allowing raising of water level from 136 feet. According to it, the life of the dam was said to be 50 years from the date of construction. Since it had completed more than 100 years, it had served the useful life. It was, therefore, dangerous to allow raising of water level beyond 136 feet. It was also stated that if something happens to the dam, serious consequences could ensue and three adjoining districts could be completely wiped out and destroyed. It was also the stand of the State that the dam was constructed at a time when the design and construction techniques were in infancy. There was no testing laboratory to get accurate and detailed tests of construction materials. The stress and other elements were observed in the dam right from the initial filling and remained there in spite of remedial measures taken out. Moreover, there were frequent tremors occurring in that area and in case of an earthquake, it could result in serious calamities and total destruction of life and property. It was also alleged that the technical officials of CWC had submitted the report without effective participation of the technicians from Kerala and view points of Kerala had not been considered at all. According to the State, CWC also could not be considered as the highest technical body in the country for giving technical advice and the decision taken by CWC without consultation of State of Kerala, was not binding on the State.

9. On the other hand, the State of Tamil Nadu said that the apprehension voiced by the State of Kerala was totally ill-founded, baseless and incorrect and based on mere figment of imagination. CWC was the highest technical authority with the required expertise on the subject. It had inspected the dam in detail and found various allegations as incorrect and baseless. It also stated that an expert committee was constituted in pursuance of an order passed by this Court and a report was submitted in the year 2001. As per the report, water level deserves to be allowed to be raised upto 142 feet as an interim measure on taking certain steps and after execution of the strengthening measure in respect of Baby Dam, earthen bund and on completion of remaining portion, the water level could be allowed to be restored at FRL i.e. 152 feet. Unfortunately, however, the State of Kerala did not cooperate and did not allow increase of water level even upto 142 feet. It was stated that the committee consisting of experts considered the question and thereafter various recommendations were made and actions were suggested. It was, therefore, not open to the State of Kerala to refuse to cooperate and not to accept the suggestions and the recommendations of CWC. According to the State of Tamil Nadu, its prayer for raising water level upto 142 feet at the initial stage and 152 feet at the final stage deserves to be accepted. A Committee was constituted with terms of reference as under:

(a) To study the safety of Mulla Periyar Dam located on Periyar river in Kerala with respect to the strengthening of dam carried out by the Govt. of Tamil Nadu in accordance with the strengthening measures suggested by CWC and to report/advise the Hon'ble Minister of Water Resources on the safety of the dam.

(b). To advise the Hon'ble Minister of Water Resources regarding raising of water level in Mulla Periyar reservoir beyond 136 ft. (41.45 m) as a result of strengthening of the dam and its safety as at (a) above.

The Committee will visit the dam to have first hand information and to assess the safety aspects of the dam. It will hold discussions with Secretary, Irrigation of the Kerala Govt. as well as Secretary, PWD, Govt. of Tamil Nadu with respect to safety of the dam and other related issues.

10. According to the State of Tamil Nadu, the Committee after inspecting the dam and after holding discussions with the officials of the two States, submitted its interim report wherein recommendations were made as under:

1. The Tamil Nadu PWD Department should immediately test the masonry of the Baby dam to find out the permissible tensile strength that can be adopted for the lime surkhy mortar used in the construction of Baby dam. Central Soil and Materials Research Station (CSMRS), Government of India, New Delhi, should carry out these tests. CSMRS are specialist in carrying out geophysical and core tests and have a good reputation. These tests should be carried out in the presence of the representatives of Tamil Nadu PWD, Irrigation Department, Government of Kerala and CWC. The results of these tests should be made available to the Committee by end of November, 2000. The Government of Kerala should permit Tamil Nadu PWD & CSMRS to carry out these tests without any hindrance.

2. Core samples of Baby dam shall also be extracted and tested by CSMRS, New Delhi, at the upstream and downstream faces of the dam. These results may be used to develop co- relation between the actual tests and the results obtained by geophysical testing.

3. The strengthening measures pertaining to the Baby dam and the earthen bund as already suggested by the CWC and formulated by the Government of Tamil Nadu should be carried out at the earliest. Government of Kerala is requested to allow the execution of strengthening measures of the Baby dam and earthen bund immediately.

4. Raising of water level beyond 136 ft. (41.45 m) will be decided after obtaining the tensile and compressive strength of the masonry of the Baby dam.

11. The final report of the committee shows that certain more steps were required to be taken before raising of reservoir level upto FLR i.e. 152 feet and those recommendations are:

1. The strengthening measures pertaining to Baby dam and the earthen bund, as already suggested by CWC and formulated by the Government of Tamil Nadu, should be carried out at the earliest.

2. Government of Kerala should allow the execution of strengthening measures of Baby dam, earthen bund and the remaining portion of about 20 m of parapet wall on the main Mulla Periyar Dam upto EL 160 ft. (48.77 m) immediately.

3. CWC will finalise the instrumentation for installation at the main dam. In addition, instruments will be installed during strengthening of Baby dam, including the earthen

bund, so that monitoring of the health of Mulla Periyar dam, Baby dam and earthen bund can be done on a continuous basis.

4. The water level in the Mulla Periyar reservoir be raised to a level where the tensile stress in the Baby dam does not exceed 2.85 t/m<sup>2</sup> (as suggested by Shri Parameswaran Nair, Kerala representative) especially in condition E (full reservoir level with earthquake) as per BIS Code IS 6512-1984 with  $a_h = 0.12 g$  and analysis as per clause Nos. 3.4.2.3 and 7.3.1 of BIS Code 1893-1984.

5. The Committee Members discussed the issue of raising of water level above EL 136.00 ft. (41.45 m) after studying the analysis of safety of Baby dam. Prof. A. Mohanakrishnan, Member of Tamil Nadu Government, opined in the light of para 4 that the water level should be raised upto at least EL 143.00 ft. (43.59 m) as the tensile stresses are within the permissible limits. Shri M.K. Parameswaran Nair, Member of Kerala Government did not agree to raise the water level above EL 136.00 ft. (41.45 m). However, the Committee after detailed deliberations, has opined that the water level in the Mulla Periyar reservoir be raised to EL 142.00 ft. (43.28 m) which will not endanger the safety of the Main dam, including spillway, Baby dam and earthen bund. The abstracts of the calculations for stress analysis are enclosed as Annex. XIX.

6. This raising of reservoir level upto a level where the tensile stress does not exceed 2.85 t/m<sup>2</sup> during the earthquake condition is an interim measure and further raising of water level to the FRL EL 152.00 ft. (46.33 m) [original design FRL of the Mulla Periyar Reservoir] be studied after the strengthening measures on Baby dam are carried out and completed.

12. The State of Kerala continued to resist raising of water level. The objections raised by the representative of State of Kerala were considered by the Expert Committee and taking into account the matter in its entirety and keeping in view the safety of dam, certain suggestions were made. It required the State of Tamil Nadu to take those steps. The Expert Committee stated that it was equally obligatory on the part of State of Kerala to act in accordance with the suggestions and recommendations made by the CWC and that the State of Kerala cannot refuse to cooperate on the ground that raising of water level would cause serious problem in spite of the report of the Expert Committee and recommendations and decision by CWC.

13. In the writ petition filed by Mullaperiyar Environmental Protection Forum, various prayers have been made. They have, inter alia, prayed that agreements of 1886 and 1970 be declared as null and void and consequential relief be granted and also that Section 108 of the States Re-organisation Act, 1956, be declared ultra vires and unconstitutional as it encroaches upon legislative domain of the State Legislature under Entry 17 of List II of the Seventh Schedule of the Constitution of India.

14. The petitioner has also raised objection about the legality of the agreement between the Maharaja of Travancore and the Governor General. It is claimed that the agreement was entered into in 'unholy' haste and virtually it was thrust upon and the Maharaja was

forced to accept it. It was also submitted that under Section 108 of the States Reorganization Act, any agreement or arrangement entered into by Central Government and one or more existing States relating to the right to receive and utilize water can continue to remain in force subject to certain adaptations and modifications as may be agreed upon between the successor States. Since there was no such agreement after November 1, 1957, the agreement would not continue to remain in force. It also pleaded that the agreements are not covered by Entry 56 of List I of Seventh Schedule of the Constitution of India and hence Parliament has no power to make any law in respect thereof.

15. On the other hand, the State of Tamil Nadu seeks directions for raising of water level to 142 ft. and later, after strengthening, to its full level of 152 ft. On Section 108 of the States Reorganisation Act, the stand taken by the State of Tamil Nadu is that this Section, in pith and substance, deals with "continuance of agreements and arrangements relating to certain irrigation, power or multipurpose projects" and it figures in the Act under which the present State of Kerala was formed.

16. According to the State of Tamil Nadu, the Act was not an enactment made in exercise of Parliament's legislative power under Entry 56 of List I, but was an enactment covered by Articles 3 & 4 of the Constitution of India which provides for formation of new States and making of supplemental, incidental and consequential provisions. The pre-existing contractual obligation was reasserted and reaffirmed by the State of Kerala after its formation by signing fresh agreements in 1970. It is also urged that the Lists in Schedule Seven have no applicability as the point in issue is governed by Articles 3 & 4 of the Constitution of India.

17. Another contention urged for the petitioner is that in the light of later development of law, the agreement of 1886 stands frustrated. It was submitted that the lease land was declared as reserve forest in the year 1899 by the erstwhile State of Travancore under the Travancore Forest Act. The notification remained in force under Sub-section (3) of Section 85 of the Kerala Forest Act, 1961. In 1934, Periyar Wildlife Sanctuary had been declared as a 'sanctuary' covering the grassy area, marshy areas, swamps of Mullaperiyar Dam which was expanded to 777 sq. kms. under the Wild Life Protection Act, 1972. Taking into account its importance as a well known habitat of tigers which is a highly endangered species, the sanctuary has been declared as "Periyar Tiger Reserve" in 1978 under the special management programme known as 'Project Tiger'. It was said to be the oldest sanctuary in the State of Kerala which played a very important role in bio-diversity conservation in Western Ghats. International Union for Conservation of Nature and Natural Resources (IUCN) has declared it as a bio-diversity hot spot. According to the petitioner, the forest land immediately above the present maximum water level at 136 feet has special significance from bio-diversity point of view as it comprises different types of habitats like grassy areas, marshy areas, swamps and areas covered with trees. These are the prime habitats used by most of the wild animals especially larger herbivores, carnivores and amphibians. The birds like darter and cormorants nest on the tree stumps which stand out distributed in the reservoir. Raising of water level would submerge these stumps and upset the nesting and reproduction of birds. The submergence of the forest above 136 ft. would adversely affect the bio-diversity therein and in the neighbouring

forests both in terms of flora and fauna. Further, it is urged that raising of water level would also seriously affect the ecology and economy of the State of Kerala. Having regard to these developments, the State of Tamil Nadu is not entitled to increase the water level.

18. According to the State of Tamil Nadu, Periyar Project was completed in the year 1895. The Declaration of area as Reserved Forest was made in 1899. Moreover, the declaration has not adversely affected the interest of the petitioner or the State of Kerala. According to the State of Tamil Nadu, the provisions of Kerala Forest Act, 1961 and the Wild Life Protection Act, 1972 have no applicability to the case in hand. It is also urged that raising of water level in any case would not adversely affect the natural environment. Further, according to the State of Tamil Nadu, the submergence of land due to raising of water level from 136 feet to the designated FRL 152 feet would cover only 11.2 sq. kms. The percentage of area that gets submerged is only 1.44% of the total area which is very meager. It was also asserted that the raising of water level will not affect Wildlife habitat, on the contrary it would improve the Wildlife habitat. The restoration of water level will in no way affect the flora and fauna as alleged nor affect the nesting and reproduction of birds. Higher water level will facilitate better environment for flora and fauna to flourish better. It will lead to development of new flora and fauna and will also act as resting place for migratory birds and number of rare species of birds. The increase of water level in the reservoir will also increase tourist attraction and generate more funds for the State of Kerala and also result in increase of aquatic life and since the fishery rights are with the State of Kerala, it will enable the said State to generate more funds.

19. In the aforesaid background, the questions that arise for determination are these:

1. Whether Section 108 of the States Reorganisation Act, 1956 is unconstitutional?
2. Whether the jurisdiction of this Court is barred in view of Article 262 read with Section 11 of the Inter-State Water Disputes Act, 1956?
3. Whether Article 363 of the Constitution bars the jurisdiction of this Court?
4. Whether disputes are liable to be referred to Arbitration?
5. Whether the raising of water level of the reservoir from 136 ft. to 142 ft. would result in jeopardising the safety of the people and also degradation of environment?

1. RE: Validity of Section 108 of the States Reorganisation Act, 1956 (For short 'the Act').

20. The contention urged is that the subject matter of water is covered by Entry 17 of the State List under the Seventh Schedule of the Constitution and, therefore, Section 108 which, inter alia, provides that any agreement or arrangement entered into between the Central Government and one or more existing States or between two or more existing States relating to distribution of benefits, such as the right to receive and utilise water or

electric power, to be derived as a result of the execution of such project, which was subsisting immediately before the appointed day shall continue in force, would be outside the legislative competence of the Parliament for the same does not fall in List I of Seventh Schedule, it falls in List-II. The Act was enacted to provide for the reorganisation of the States of India and for matters connected therewith as stipulated by Article 3 of the Constitution. The said Article, inter alia, provides that the Parliament may by law form a new State by separation of territory from any State or by uniting two or more States or parts of States or by uniting any territory to a part of any State. Article 4, inter alia, provides that any law referred to in Article 2 or 3 shall contain such provisions for the amendment of the First Schedule and the Fourth Schedule of the Constitution as may be necessary to give effect to the provisions of the law and may also contain such supplemental, incidental and consequential provisions as Parliament may deem necessary. The creation of new States by altering territories and boundaries of existing States is within the exclusive domain of Parliament. The law making power under Articles 3 and 4 is paramount and is not subjected to nor fettered by Article 246 and Lists II and III of the Seventh Schedule. The Constitution confers supreme and exclusive power on Parliament under Articles 3 and 4 so that while creating new States by reorganisation, the Parliament may enact provisions for dividing land, water and other resources; distribute the assets and liabilities of predecessor States amongst the new States; make provisions for contracts and other legal rights and obligations. The constitutional validity of law made under Articles 3 and 4 cannot be questioned on ground of lack of legislative competence with reference to the lists of Seventh Schedule. The new State owes its very existence to the law made by the Parliament. It would be incongruous to say that the provision in an Act which gives birth to a State is ultra vires a legislative entry which the State may operate after it has come into existence. The power of the State to enact laws in List II of Seventh Schedule are subject to Parliamentary legislation under Articles 3 and 4. The State cannot claim to have legislative powers over such waters which are the subject of Inter-State agreement which is continued by a Parliamentary enactment, namely, the States Organisation Act, enacted under Articles 3 and 4 of the Constitution of India. The effect of Section 108 is that the agreement between the predecessor States relating to irrigation and power generation etc. would continue. There is a statutory recognition of the contractual rights and liabilities of the new States which cannot be affected unilaterally by any of the party States either by legislation or executive action. The power of Parliament to make law under Articles 3 and 4 is plenary and traverse over all legislative subjects as are necessary for effectuating a proper reorganisation of the States. We are unable to accept the contention as to invalidity of Section 108 of the Act.

2. RE: Whether the jurisdiction of this Court is barred in view of Article 262 read with Section 11 of the Inter-State Water Disputes Act, 1956?

21. Article 262 provides that Parliament may by law provide for the adjudication of any dispute or complaint with respect to the use, distribution or control of the waters of, or in, any inter-State river or river valley. The jurisdiction of the Courts in respect of any dispute or complaint referred to in Article 262(1), can be barred by Parliament by making law. The Inter-State Water Disputes Act, 1956 was enacted by Parliament in exercise of

power under Article 262 of the Constitution. Section 11 of the said Act excludes the jurisdiction of Supreme Court in respect of a water dispute referred to the Tribunal. Section 2(c) of this Act defines 'water dispute'. It, inter alia, means a dispute as to the use, distribution or control of the waters of, or as to the interpretation or implementation of agreement of such waters.

22. In the present case, however, the dispute is not the one contemplated by Section 2(c) of the Act. Dispute between Tamil Nadu and Kerala is not a 'water dispute'. The right of Tamil Nadu to divert water from Peryar reservoir to Tamil Nadu for integrated purpose of irrigation or to use the water to generate power or for other uses is not in dispute. The dispute is also not about the lease granted to Tamil Nadu in the year 1886 or about supplementary agreements of 1970. It is also not in dispute that the dam always had and still stands at the height of 155 ft. and its design of full water level is 152 ft. There was also no dispute as to the water level till the year 1979. In 1979, the water level was brought down to 136 ft. to facilitate State of Tamil Nadu to carryout certain strengthening measures suggested by Central Water Commission (CWC). The main issue now is about the safety of the dam on increase of the water level to 142 ft. For determining this issue, neither Article 262 of the Constitution of India nor the provisions of the Inter-State Water Dispute Act, 1956 have any applicability. There is no substance in the contention that Article 262 read with Section 11 of the Inter-State Water Disputes Act bars the jurisdiction of the court in regard to nature of disputes between the two States.

3. RE: Whether Article 363 of the Constitution bars the jurisdiction of this Court?

23. The jurisdiction of the courts in respect of dispute arising out of any provision of a treaty, agreement, covenant, engagement, sanad or other similar instrument entered into or executed before the commencement of the Constitution is barred in respect of matters and in the manner provided in Article 363 of the Constitution of India. The main reason for ouster of jurisdiction of courts as provided in Article 363 was to make certain class of agreements non-justiciable and to prevent the Indian Rulers from resiling from such agreements because that would have affected the integrity of India. The agreement of the present nature would not come within the purview of Article 363. This Article has no applicability to ordinary agreements such as lease agreements, agreements for use of land and water, construction works. These are wholly non-political in nature. The present dispute is not in respect of a right accruing or a liability or obligation arising under any provision of the Constitution {see Madhav Rao Scindia v. Union of India }

24. The contention also runs counter to Section 108 of the States Reorganisation Act, which expressly continues the agreement. There is, thus, no merit in this objection as well.

**4. RE: Whether disputes are liable to be referred to Arbitration?**

25. It is contended that the lease deed dated 29th October, 1886 provides that whenever any dispute or question arises between the Lessor and the Lessee touching upon the rights, duties or liabilities of either party, it shall be referred to two arbitrators and then to

an umpire if they differ. This clause was amended in supplementary agreement dated 29th May, 1970. Relying on the arbitration agreement, the contention urged on behalf of State of Kerala is that the parties should be directed to resort to alternate remedy of arbitration and discretionary relief in these petitions may not be granted to State of Tamil Nadu. There is no substance in this contention as well. The present dispute is not about the rights, duties and obligations or interpretation of any part of the agreement. As already noted, the controversy herein is whether the water level in the reservoir can presently be increased to 142 ft. having regard to the safety of the dam. The full water level was 152 ft. It was reduced to 136 ft. in 1979. The aspect of increase of water level is dependant upon the safety of the dam after strengthening steps have been taken. This aspect has been examined by experts.

5. Re: Whether the raising of water level of the reservoir from 136 ft. to 142 ft. would result in jeopardising the safety of the people and also degradation of environment?

26. Opposing the increase of water level, the contention urged is that it would result in a larger area coming in submergence which is not permissible without complying with the mandatory provisions of the Forest (Conservation) Act, 1980 and the Wild Life (Protection) Act, 1972.

27. Reliance has been placed on Section 26A of the Wild Life (Protection) Act which stipulates that the boundaries of a sanctuary shall not be altered except on a recommendation of the National Board constituted under Section 5-A of the Act. The total area of the sanctuary is about 777 square kilometers. The leased area of about 8,000 acres is a part of the total area. By raising the water level, the boundaries of the sanctuary do not get altered. The total area of the sanctuary remains 777 square kilometers. Further, Section 2(17) of the Act, which defines land includes canals, creeks and other water channels, reservoirs, rivers, streams and lakes, whether artificial or natural, marshes and wetlands and also includes boulders and rocks. It cannot be said that forest or wildlife would be affected by carrying out strengthening works and increase of the water level. On the facts and circumstances of the case, the strengthening work of existing dam in the forest cannot be described as a non-forestry activity so as to attract Section 2 of the Forest (Conservation) Act, 1980, requiring prior approval of Union of India.

28. As already noticed, it was only in 1979 that the water level was brought down to 136 ft from 152 ft. The increase of water level will not affect the flora and fauna. In fact, the reports placed on record show that there will be improvement in the environment. It is on record that the fauna, particularly, elephant herds and the tigers will be happier when the water level slowly rises to touch the forest line. In nature, all birds and animals love water spread and exhibit their exuberant pleasure with heavy rains filling the reservoir resulting in lot of greenery and ecological environment around. The Expert Committee has reported that it will be beneficial for the Wildlife in the surrounding area as it will increase the carrying capacity for wildlife like elephants, ungulates and in turn tigers. The apprehension regarding adverse impact on environment and ecology have been found by the experts to be unfounded. We are also unable to accept the contention that the impact on environments has not been examined. Report dated 28th January, 2003 states that

there is no adverse impact on the environment. Similarly, the report dated 21st April, 2003 is also to the similar effect. It, inter alia, states that:

The most productive habitats in terms of forage availability to ungulates and elephants are these vayals. This habitat is of even greater significance to wildlife since the green flush of protein rich grasses appears at a time when nutritive quality of forest forage is lowest. This is so since water is likely to be released from the Dam during the dry months for irrigation. Thus, this nutrient rich biomass is critical for maintaining condition of herbivores and their populations during the pinch period.

If the lowest water level even after increasing the water capacity of the dam is maintained at the current level, then the increased high water table will make more area available as Vayals, effectively adding some more area to the existing Vayals, thereby increasing the carrying capacity of the reserve for ungulates, elephants and in turn of tigers.

In this view, we find no substance in the contention that there will be adverse effect on environment.

29. Regarding the issue as to the safety of the dam on water level being raised to 142 ft. from the present level of 136 ft, the various reports have examined the safety angle in depth including the viewpoint of earthquake resistance. The apprehensions have been found to be baseless. In fact, the reports suggest an obstructionist attitude on the part of State of Kerala. The Expert Committee was comprised of independent officers. Seismic forces as per the provisions were taken into account and structural designs made accordingly while carrying out strengthening measures. The final report of the Committee, set up by Ministry of Water Resources, Government of India to study the water safety aspect of the dam and raising the water level has examined the matter in detail. The Chairman of the Committee was a Member (D&R) of Central Water Commission, two Chief Engineers of Central Water Commission, Director, dam safety, Government of Madhya Pradesh and retired Engineer-in-Chief, UP besides two representatives of Governments of Tamil Nadu and Kerala, were members of the Committee. All appended their signatures except the representative of the Kerala Government. The summary of results of stability analysis of Mullaperiyar Baby Dam contains note which shows that the permissible tensile strength was masonry as per the specifications mentioned therein based on test conducted by CSMRS, Delhi on the time and agreed by all Committee members including the Kerala representative in the meeting of the Committee held on 9-10th February, 2001. It also shows the various strengthening measures suggested by CWC having been completed by Tamil Nadu PWD on the dam including providing of RCC backing to the dam. The report also suggests that the parapet wall of the baby dam and main dam have been raised to 160 ft. (48.77 mt.) except for a 20 mt. stretch on the main dam due to denial of permission by the Government of Kerala. Some other works as stated therein were not allowed to be carried on by the State of Kerala. The report of CWC after inspection of main dam, the galleries, baby dam, earthen bund and spillway, concludes that the dam is safe and no excessive seepage is seen and that Mullaperiyar dam has been recently strengthened. There are no visible cracks that have occurred in the body of the dam and seepage measurements indicate no cracks in the

upstream side of the dam. Our attention has also been drawn to various documents and drawings including cross-sections of the Periyar dam to demonstrate the strengthening measures. Further, it is pertinent to note that the dam immediately in line after Mullaperiyar dam is Idukki dam. It is the case of State of Kerala that despite the 'copious rain', the Idukki reservoir is not filled to its capacity, while the capacity of reservoir is 70.500 TMC, it was filled only to the extent of 57.365 TMC. This also shows that assuming the worst happens, more than 11 TMC water would be taken by Idukki dam. The Deputy Director, Dam Safety, Monitoring Directorate, Central Water Commission, Ministry of Water Resources in affidavit of April 2004 has, inter alia, stated that during the recent earthquake mentioned by Kerala Government in its affidavit, no damage to the dam was reported by CWC officers who inspected the dam. The experts having reported about the safety of the dam and the Kerala Government having adopted an obstructionist approach, cannot now be permitted to take shelter under the plea that these are disputed questions of fact. There is no report to suggest that the safety of the dam would be jeopardized if the water level is raised for the present to 142 ft. The report is to the contrary.

30. Regarding raising the water level to 152 ft., the stage has still not reached. At present, that is not the prayer of the State of Tamil Nadu. In this regard, at this stage, the only prayer of the State of Tamil Nadu is that State of Kerala be directed not to obstruct it in carrying out strengthening measures, as suggested by CWC. We see no reason for the State of Kerala to cause any obstruction.

31. Under the aforesaid circumstances, we permit State of Tamil Nadu to carry out further strengthening measures as suggested by CWC and hope that State of Kerala would cooperate in the matter. The State of Kerala and its officers are restrained from causing any obstruction. After the strengthening work is complete to the satisfaction of the CWC, independent experts would examine the safety angle before the water level is permitted to be raised to 152 ft.

32. The writ petition and the connected matters are disposed of by permitting the water level of the Mullaperiyar dam being raised to 142 ft. and by permitting the further strengthening of the dam as aforesaid.